Borough of Brighton.

ANNUAL REPORT

ON THE

HEALTH,

SANITARY CONDITION, &c.,

OF THE

BOROUGH OF BRIGHTON,

FOR THE YEAR 1897.

BY

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BOROUGH OF BRIGHTON.

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Medical Officer of Health.

ARTHUR NEWSHOLME, M.D. Lond.

PREFACE.

Town Hall,
March 14th, 1898.

To the Sanitary Committee of the Brighton Town Council.

Gentlemen,—

I beg to present herewith my Annual Report for 1897. In a preliminary memorandum I have already drawn attention to the fact that the death-rate was lower in 1897 than in any preceding year, a fact on which the town is to be congratulated, especially in view of the consideration that the Municipal Borough does not include within its borders its proper complement of suburban districts, which in other great towns have an important influence in lowering the total death-rate.

There is still scope for improvement, as will be gathered from the detailed remarks under the head of special diseases.

I have introduced into this report two special reports, one dealing with a cause of Enteric Fever which still remains beyond our control, and the other with the question as to how far Measles may be prevented from spreading by official measures.

I must draw special attention to the increasing magnitude of the work done at the Borough Sanatorium. The day is past when there was difficulty in inducing patients having insufficient means of isolation at home to enter this Institution. This fact, and the further fact that cases of Diphtheria and Enteric Fever, formerly treated in other Hospitals, now come almost solely to the Sanatorium, has rendered it necessary to maintain a larger staff of nurses, &c. Even with this assistance it would have been impracticable for me to undertake the sole medical charge of the Sanatorium during 1897, without residing there, had it not been for the help of a resident qualified assistant.

The necessity for such assistance was rendered the more necessary by the establishment of the Municipal Hygienic Laboratory, in which bacteriological aid has been given in the diagnosis of cases of Enteric Fever Diphtheria and Phthisis. Up to the end of 1897 about 150 such examinations were made. In addition to this, a monthly complete chemical and bacteriological examination of the water from each of the sources of supply of water for Brighton has been made, and a daily bacteriological examination of tap-water. A detailed statement of the work of this department up to the end of the present month will shortly be presented.

I am, Gentlemen,
Your obedient Servant,
Arthur Newsholme,
Medical Officer of Health.

TABLE OF CONTENTS.

PAGE

Abattoir ... 48
Alcoholism ... 40
Births and Birth-rate ... 5
,, illegitimate ... 5
Common Lodging Houses ... 49
Consumption, amount of ... 39
Deaths and Death-rates ... 6
,, according to wards ... 7
,, of visitors ... 9
,, in public institutions ... 10
,, distributed according to age ... 10
,, infantile ... 10
,, chief causes of ... 11
Diarrhœa ... 35
Diphtheria ... 28
Enteric Fever, amount of ... 17
,, ,, in relation to shell-fish 17
Factory and Workshops Act, work under ... 49
Influenza ... 38
Inquests ... 41

PAGE

Measles ... 28
Meat, amount destroyed ... 47
Notification of infectious diseases, cost of 15
Population, estimates of ... 5
Phthisis (see Consumption).
Rheumatic Fever ... 41
Sale of Food and Drugs Act ... 49
Sanitary work, inspections ... 43
,, ,, notices on owners ... 44
,, ,, ,, occupiers ... 45
Sanatorium, work of ... 52
Scarlet Fever ... 26
Small-pox ... 16
Special Reports on { Enteric Fever ... 20
Special Reports on { Measles ... 28
Syphilis ... 40
Tubercular Diseases ... 38
Typhoid Fever (see Enteric Fever).
Violence, deaths from ... 41
Whooping Cough ... 32

A.—VITAL STATISTICS.

POPULATION.

The population of the County Borough of Brighton at the middle of 1897 is estimated by the Registrar-General to be 121,401. This estimate is based on the assumption that the rate of increase during the decennium 1881-90, is being continued in the present decennium.

During 1897, 412 new dwelling-houses were passed by the Borough Surveyor's Department, as compared with 397 in 1896, and 332 in 1895. These were situate in the following Wards:—Kemp Town 2, Lewes Road 73, Pier 79, Queen's Park 25, Preston 174, Preston Park 59.

In Table II. an estimate of the population in each ward is given, and on this estimate are based the death-rates in each Ward given in Table III. Such an estimate can necessarily only be approximately accurate.

BIRTHS.

The total number of births registered in the Borough in the 52 weeks ending January 1st, 1898, was 2,986,—1,480 of boys and 1,506 of girls. This is equivalent to a birth-rate of 24·6 per 1,000 inhabitants. The birth-rate of the thirty-three great towns was 30·7 per 1,000, that of London being 30·0. Brighton had the lowest birth-rate among the great towns, with the exception of Huddersfield, Halifax, and Bradford. For a comparison of the birth-rate with that of previous years see Table I.

Of the births, 185 were of illegitimate children, forming 6·2 per cent. of the total births, as compared with 6.4 per cent. in the previous year. 64 births occurred in the Workhouse, of which 61 were of illegitimate children.

Table I.—*Comparison of Births and Deaths in Successive Years.*

Years.	Births.	Birth-Rate per 1,000 inhabitants.	Deaths from all Causes.	Death-Rate per 1,000 inhabitants.	Death-Rate from the seven chief Infectious Diseases per 1,000 inhabitants.	Death-Rate under one year of age per 1,000 births.
1882	3284	30·2	2372	21·8	4·40	187
1883	3236	29·6	2131	19·5	2·50	160
1884	3248	29·1	2064	18·8	1·77	162
1885	2981	26·9	1952	17·6	1·43	132
1886	2957	26·5	1986	17·8	1·97	160
1887	3038	27·0	1988	17·7	2·33	148
1888	2791	24·6	1928	17·0	1·42	149
1889	2964	26·0	1833	16·1	1·60	131
1890	2915	25·4	2232	19·1	2·57	164
1891	3031	26·2	2097	18·2	1·06	137
1892	2958	25·1	2232	18·9	2·09	151
1893	2981	25·3	2165	18·4	1·84	169
1894	3055	25·8	1943	16·4	1·20	137
1895	3057	25·6	2250	18·8	1·72	164
*1896	3025	25·1	1975	16·1	1·66	124
1897	2986	24·6	1823	15·0	1·54	144

*53 weeks.

DEATHS.

During the year 1897, 1,823 deaths were registered as belonging to Brighton, 904 of males and 919 of females. This shows an annual death-rate of 15·01 per 1,000 inhabitants, as compared with 16.1 in 1896, 18·8 in 1895, 16·4 in 1894, and 21·8 in 1882 (see Table I.).

The death-rate was 15·3 in the first quarter of the year, 12·9 in the second quarter, 17·7 in the third quarter, and 14·3 in the fourth quarter of the year.

The death-rate for 1897 was the lowest hitherto experienced in Brighton. It was lower than in any other great town, with the exception of Croydon and Cardiff.

I have extracted for each ward the number of deaths from the more important and preventible causes of death.

The results are shewn in Tables II. and III.

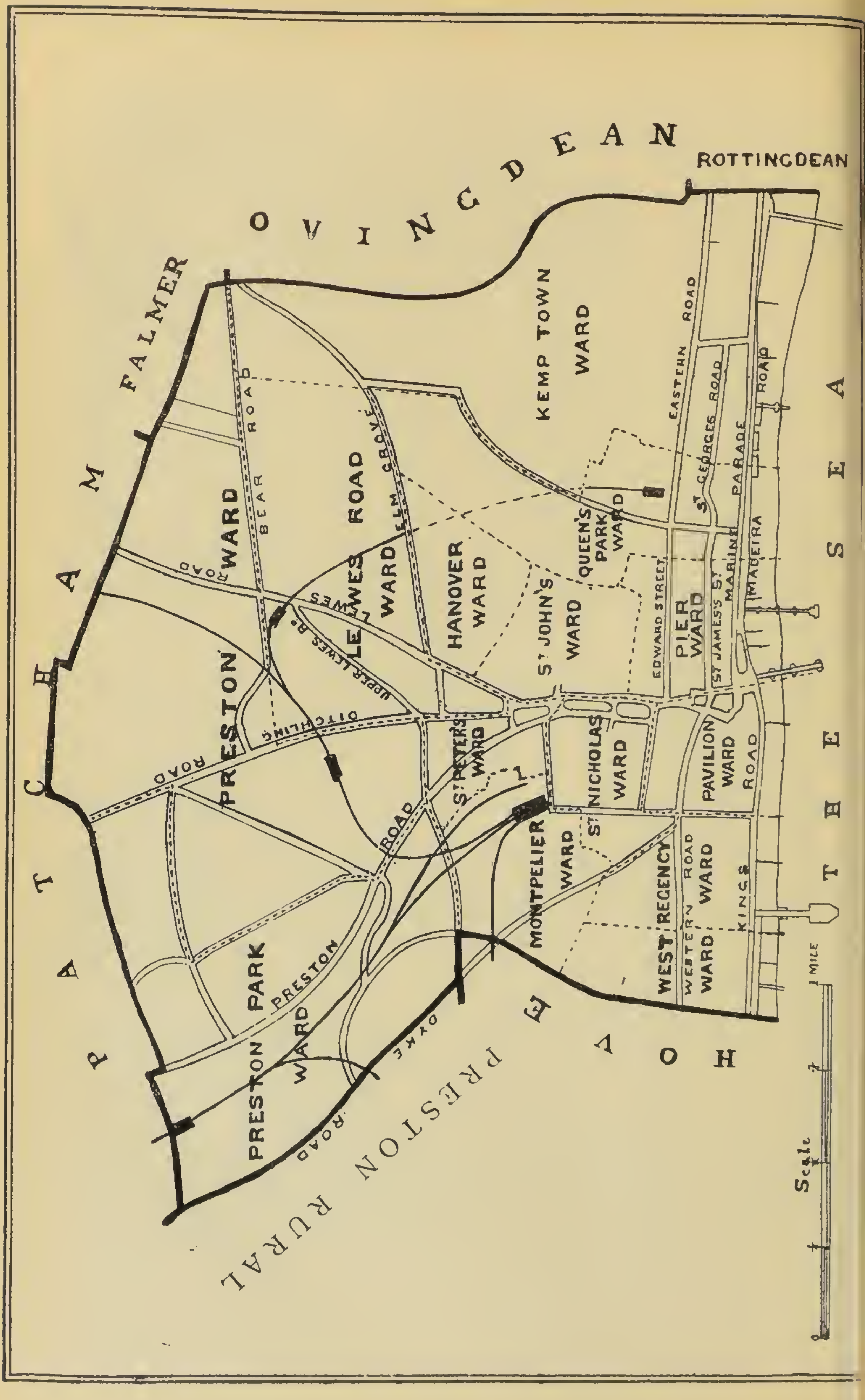
The following facts illustrate the teaching of Table III. so far as it deals with diseases due to undesirable social and sanitary conditions. Giving the wards in the order of severity of death-rate, the highest death-rate from Measles was in St. Peter's, St. Nicholas and St. John's Wards ; the highest death-rate from Diarrhœa in Hanover, Pier and Lewes Road Wards ; the highest death-rate from Consumption in St. John's, Hanover and Queen's Park Wards ; the highest death-rate from Bronchitis and Pneumonia in St. Peter's, St. John's and Pier Wards.

Table II.

Ward.	Estimated Population.	Number of Deaths during 1897 from									
		All Causes.	Scarlet Fever.	Diphtheria.	Enteric Fever.	Measles.	Whooping Cough.	Diarrhœa.	Phthisis.	Other Tubercular Diseases.	Bronchitis and Pneumonia.
Kemp Town	7,126	92	—	2	—	—	1	7	8	3	11
Queen's Park ...	7,114	102 (32)	1	1	1	—	—	8 (1)	13 (3)	4	13 (1)
Pier	11,906	216 (8)	—	—	3	—	4	19	19	5	23
Pavilion	5,316	60 (2)	1	—	1	1	—	5	5	—	7
Regency	8,292	103	1	3	1	1	1	4	9	2	16
West	5,272	65	—	1	—	—	1	2	8	2	4
Montpelier ...	6,065	58 (7)	—	2	—	—	1	(1)	7	5 (1)	3
St. Nicholas ...	10,706	161 (1)	2	—	1	4	2	7	14	4	17
St. John's	12,346	206	1	1	6	4	3	12	27	4	29
Hanover...... ...	10,910	197	1	1	4	—	5	18	21	5	19
Lewes Road ...	11,256	179	2	—	1	1	1	13	12	8	23
St. Peter's... ...	8,492	156	—	—	3	5	2	9	11	3	21
Preston Park ...	6,800	69	—	—	—	1	3	—	6	5	4
Preston	9,800	111	3	1	—	—	2	3	6 (2)	5	15
		1775 (50)	12	12	21	17	26	107 (2)	166 (5)	55 (1)	205 (1)

Table III.

	From All Causes.	Scarlet Fever.	Diphtheria.	Enteric Fever.	Measles.	Whooping Cough.	Diarrhœa.	Phthisis.	Other Tubercular Diseases.	Bronchitis and Pneumonia.	Estimated No. of Inhabitants per Acre.
Kemp Town ..	12·9	—	0·28	—	—	0·14	0·98	1·12	0·42	1·54	15
Queen's Park ...	14·4	0·14	0·14	0·14	—	—	1·13	1·83	0·56	1·83	37
Pier	18·2	—	—	0·25	—	0·34	1·61	1·61	0·42	1·94	145
Pavilion	11·3	0·19	—	0·19	0·19	—	0·94	0·94	—	1·32	77
Regency	12·4	0·12	0·36	0·12	0·12	0·12	0·48	1·09	0·24	1·93	106
West	12·4	—	0·19	—	—	0·19	0·38	1·52	0·38	0·76	72
Montpelier ...	9·6	—	0·33	—	—	0·17	0·17	1·16	0·83	0·50	58
St. Nicholas ...	15·1	0·18	—	0·09	0·37	0·18	0·65	1·30	0·37	1·59	155
St. John's... ...	16·8	0·08	0·08	0·49	0·33	0·25	0·98	2·19	0·33	2·36	162
Hanover	18·1	0·09	0·09	0·37	—	0·46	1·66	1·93	0·46	1·75	149
Lewes Road ...	15·9	0·18	—	0·09	0·09	0·09	1·15	1·07	0·71	2·04	41
St. Peter's... ...	18·4	—	—	0·35	0·59	0·23	1·06	1·29	0·36	2·49	177
Preston Park ...	10·2	—	—	—	0·15	0·44	—	0·88	0·74	0·54	16
Preston	11·3	0·32	0·11	—	—	0·22	0·32	0·61	0·51	1·53	19
The whole Borough ...	15·0	0·10	0·10	0·17	0·14	0·21	0·91	1·42	0·47	1·71	48


FALMER
OVINGDEAN
ROTTINGDEAN
PATCHAM
PRESTON RURAL
HOVE
THE SEA
KEMP TOWN WARD
PRESTON WARD
LEWES ROAD WARD
HANOVER WARD
ST. JOHN'S WARD
QUEEN'S PARK WARD
PIER WARD
ST. PETER'S WARD
ST. NICHOLAS WARD
PAVILION WARD
MONTPELIER WARD
REGENCY WARD
WEST WARD
PRESTON PARK WARD
BEAR ROAD
ROAD
LEWES RD.
UPPER LEWES RD.
ELM GROVE
DITCHLING ROAD
ROAD
EASTERN ROAD
ST. GEORGES ROAD
MARINE PARADE
MADEIRA ROAD
EDWARD STREET
ST. JAMES'S ST.
KINGS ROAD
WESTERN ROAD
PRESTON ROAD
DYKE ROAD
Scale
1 MILE

DEATH OF VISITORS

Of the total 1,871 deaths registered in Brighton during last year, 88 occurring in private houses and 48 in the County Hospital, were stated to be of visitors. The return of deaths among visitors is incomplete, many of the deaths occurring amongst visitors not being marked as such. The County Hospital in particular draws a considerable number of patients from surrounding districts, as will be seen from the following table of deaths in that institution :—

	1891.	1892.	1893.	1894.	1895.	1896.	1897.
Deaths of Inhabitants of Brighton	95	75	94	94	92	96	85
Deaths of persons from the rural districts of Sussex, &c.	18	23	19	21	24	25	31
Deaths of persons from Hove	10	4	6	12	11	11	10
Deaths of persons from London, &c.	3	2	2	2	3	4	7
Addresses not known	—	—	—	4	1	—	2
Total Deaths in the Sussex County Hospital	126	104	121	133	131	136	133

Thus, taking the average of seven years, 28·6 per cent. of the total deaths in the County Hospital were of non-residents.

Of the 22 deaths in the Children's Hospital during 1897, one came from Burgess Hill, one from Hassocks, one from Newhaven, and one from London. The one death at the Eye Hospital was of a patient from Felpham, and one death at the Lying-In Hospital was of a patient from Berkshire.

The Registrar-General now excludes from the Brighton returns the deaths occurring in the Female Convalescent Home, Marine Parade, in the Sussex County Hospital, and in the Borough Sanatorium respectively, of persons who had not resided in the Borough prior to their admission into the respective institutions ; and includes on the other hand the deaths of any Preston paupers which occur in the Steyning Union Workhouse. As shewn by the above table, 48 deaths of outsiders occurred at the County Hospital. The result of the correction carried to this extent is to reduce the total 1,871 deaths by 48. No correction is made for the Children's Hospital and other institutions in the town and no account is taken of the much larger number of visitors who die in Brighton, but not in any public institution in it.

DEATHS IN PUBLIC INSTITUTIONS.

Of the total deaths, 237 occurred in the Workhouse, 85 in the Sussex County Hospital, 22 in the Children's Hospital, 32 in the Sanatorium, 2 in the Lying-In Hospital, 2 in the Barracks, 2 in the Shoreham Workhouse, and 1 in the Eye Hospital.

DEATHS DISTRIBUTED ACCORDING TO AGE.

An accurate statement of the death-rate involves its statement in groups of ages for the persons living and dying at these ages. This is given for three years in the following table :—

TABLE IV.—*Death-rate per 1,000 living at each group of ages.*

Year	At all ages	Under 5	5-10	10-15	15-20	20-25	25-35	35-45	45-55	55-65	65-75	75 and upwards
1895	18·8	63·6	3·3	2·6	2·7	4·0	5·1	10·4	17·5	33·6	59·4	154·7
1896	16·1	51·2	3·7	1·3	3·3	3·9	5·3	11·8	16·3	25·2	52·0	137·0
1897	15·0	48·7	2·7	2·0	3·3	3·4	5·1	9·2	15.1	22·8	46·9	123·0

It will be seen that the lowered death-rate was spread over nearly all groups of ages, but was specially marked in children under 10, and in the old.

Infantile Mortality.—The infantile mortality (under one year of age) is best stated in terms of the infantile population, that is, practically the annual number of births. Thus stated, during last year it was 124 per 1,000 births.

Mortality among Illegitimate Infants.—The total number of deaths under one year of age in 1897 was 428. Of this number 49 were illegitimate children. Stated in proportion to numbers living, the relative mortality among legitimate and illegitimate infants was as follows :—

	1891.	**1892.**	**1893.**	**1894.**	**1895.**	**1896.**	**1897.**
Deaths of legitimate infants per 1,000 legitimate births	118 ...	134 ...	158 ...	135 ...	151 ...	129 ...	135
Deaths of illegitimate infants per 1,000 illegitimate births	293 ...	360 ...	319 ...	173 ...	358 ...	233 ...	265

Thus an illegitimate child born in Brighton during 1897 had less than one-half the prospect of reaching the end of its first year of life which was enjoyed by a child born in wedlock.

DEATHS AND SICKNESS ACCORDING TO SEASON.

Table XI. shews the weekly deaths from the chief causes. In the following table the incidence of the notifiable infectious diseases is shewn according to the months of the year. The cases are classified according to the date of onset of each case. The figures in brackets give the deaths occurring out of the cases originating each month :—

	Small Pox.	Scarlet Fever.	Diphtheria and Membranous Croup.	Enteric Fever.	Puerperal Fever.	Erysipelas.	Total.
January ...	0	22 (^{2})	13 (^{1})	2 (^{2})	1 (^{1})	3	41
February ...	0	38 (^{2})	13 (^{3})	5	3 (^{1})	7 (^{2})	66
March ...	0	19 (^{1})	25 (^{4})	6 (^{2})	1 (^{1})	3	54
April	0	31	12 (^{1})	4	3	2	52
May	0	9	9	11 (^{2})	0	2	31
June	0	15	12	15 (^{2})	1 (^{1})	2	45
July	0	48 (^{3})	16	6 (^{2})	1	5 (^{1})	76
August ...	0	29 (^{1})	7	8 (^{1})	2	5	51
September ...	0	24 (^{1})	8	12 (^{3})	1	4	49
October ...	0	36 (^{1})	10	16 (^{2})	1 (^{1})	11	74
November ...	0	29	29 (^{1})	16 (^{2})	0	9 (^{2})	83
December ...	0	25	32 (^{1})	12	1	8 (^{1})	78
Total	0	325	186	113	15	61	700

CHIEF CAUSES OF DEATH.

The chief causes of death, and the number of deaths from each disease or group of diseases, are tabulated in Table V. This table gives the relative incidence of different diseases, and the incidence of each disease in the two sexes and at different ages.

ZYMOTIC DISEASES.

The seven chief infectious diseases caused 198 deaths as compared with 200 in the previous year, which is equivalent to an annual death-rate of 1·54 per 1,000 of population. This, as will be seen from a glance at Table I., is exceptionally low.

The relative proportion borne by each zymotic disease is shewn in Table VI.

It is satisfactory to note the continued absence of Small-pox from this table ; also the fact that Diphtheria is on the decline. The mortality figures for Diphtheria are extremely favourable when compared with London and other neighbouring towns.

TABLE V.

CAUSES OF DEATH IN BRIGHTON DURING THE YEAR 1897.		Total Deaths.	SEX.			
			Male.	Female.	0—1	1—5
Small Pox		—	—	—	—	—
Measles		17	8	9	1	15
Whooping Cough		26	11	15	8	17
Enteric Fever		21	8	13	—	1
Malarial Fever...		1	1	—	—	—
Diarrhœa		109	54	55	76	26
Diphtheria		12	3	9	1	5
Scarlet Fever		12	4	8	2	5
Puerperal Fever		5	—	5	—	—
Erysipelas		7	4	3	2	—
Other Zymotic Diseases		3	2	1	—	—
Influenza		21	11	10	1	1
Syphilis		8	5	3	6	1
Phthisis	Tubercular	174	90	84	4	3
Tabes Mesenterica		13	6	7	9	2
Brain Tubercle...		25	13	12	7	12
Other Tubercular Diseases		20	13	7	4	5
Cancer Malignant Disease... ...		106	45	61	—	1
Gout and Rheumatism		18	8	10	—	—
Other Constitutional Diseases ...		16	9	7	1	4
Parasitic Diseases		—	—	—	—	—
Dietic		13	7	6	1	—
Nervous Diseases, excluding Convulsions		157	71	86	9	7
Convulsions		28	14	14	24	4
Diseases of Organs of Special Sense		1	1	—	—	—
Circulatory		182	98	84	1	2
Respiratory		245	112	133	50	41
Digestive		140	66	74	40	19
Generative		8	1	7	—	—
Urinary		50	26	24	1	1
Locomotory		7	3	4	1	—
Integumentary		8	4	4	2	—
Diseases of Glandlike Organs of Uncertain Use		1	1	—	—	—
Premature birth and low vitality ...		81	48	33	80	1
Congenital defects and malformations		9	4	5	1	1
Old age		143	67	76	—	—
Violence...		52	39	13	10	5
Ill-defined		84	47	37	80	4
TOTALS		1823	904	919	428	182

TABLE V. *(contd.)*

AGES AT DEATH.									
5—10	10 15	15—20	20—25	25—35	35—45	45—55	55—65	65—75	75 and upwards
—	—	—	—	—	—	—	—	—	—
—	1	—	—	—	—	—	—	—	—
1	—	—	—	—	—	—	—	—	—
1	3	5	2	3	4	2	—	—	—
—	—	—	—	—	—	—	—	—	—
2	—	—	1	—	—	1	1	—	3
4	1	—	—	—	1	—	—	—	—
2	2	—	—	—	1	—	—	—	—
—	—	—	—	1	3	1	—	—	—
—	—	—	—	—	3	—	—	—	2
—	—	1	—	—	—	2	—	—	—
—	1	—	1	1	3	3	3	3	4
—	—	—	1	—	—	—	—	—	—
3	3	11	18	41	48	26	12	5	—
1	—	—	—	1	—	—	—	—	—
3	1	1	—	1	—	—	—	—	—
2	1	2	1	2	1	1	1	—	—
—	1	—	—	—	5	23	27	31	18
—	1	2	—	1	1	3	3	3	4
1	1	—	—	1	—	3	3	2	—
—	—	—	—	—	—	—	—	—	—
—	—	—	—	4	2	3	2	1	—
—	1	3	—	9	12	20	28	41	27
—	—	—	—	—	—	—	—	—	—
—	1	—	—	—	—	—	—	—	—
2	—	2	3	5	23	25	32	51	36
2	—	1	4	7	8	22	30	38	42
5	5	2	3	9	7	20	15	9	6
—	—	1	1	1	4	—	—	1	—
2	1	2	—	7	6	3	8	9	10
1	—	3	—	—	1	1	—	—	—
—	—	—	—	—	1	1	—	4	—
—	—	—	—	—	1	—	—	—	—
—	—	—	—	—	—	—	—	—	—
1	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	29	114
1	—	4	4	4	4	8	9	1	2
—	—	—	—	—	—	—	—	—	—
34	24	40	39	98	139	169	174	228	268

TABLE VI.

Year.	Population.	Annual Death-Rate per 100,000 of population from										
		All Causes.	Small Pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping Cough.	Fever (chiefly Enteric).	Diarrhœa.	The Seven Chief Zymotic Diseases.	Phthisis.	Other Tubercular Diseases.
1869	87,659	2060	—	2	79	12	45	39	147	325	—	—
1870	88,878	2390	45	44	150	32	83	40	111	505	—	—
1871	90,345	2260	71	23	91	9	9	38	155	396	—	—
1872	91,684	2090	4	45	83	10	26	27	143	338	—	—
1873	93,041	1870	—	7	6	4	45	33	91	188	—	—
1874	95,297	2130	1	65	4	20	55	34	78	256	—	—
*1875	97,005	2250	—	2	21	8	89	26	104	249	—	—
1876	98,746	2000	1	57	68	9	13	14	76	238	—	—
1877	100,510	1910	10	2	27	5	52	18	80	194	233	—
1878	102,320	2160	—	22	8	4	80	16	107	236	225	—
1879	104,150	1930	—	25	13	3	52	10	42	146	214	—
1880	106,200	2000	—	22	77	3	41	21	127	290	192	—
1881	107,934	1910	8	21	68	6	30	42	48	263	183	—
1882	108,680	2180	4	143	83	7	115	25	61	438	209	—
1883	109,423	1960	—	51	11	6	57	25	96	246	192	—
1884	110,180	1870	1	7	27	14	33	14	80	178	195	—
1885	110,938	1760	1	31	6	16	41	16	32	142	191	—
1886	111,704	1780	—	10	12	19	60	12	84	197	195	—
1887	112,473	1770	—	64	9	27	28	12	95	233	178	—
1888	113,248	1700	—	3	8	21	43	13	54	142	153	65
1889	114,029	1610	—	40	10	9	24	16	56	160	178	67
1890	114,814	1910	—	53	10	12	89	11	82	257	192	86
1891	115,606	1820	—	24	1	10	18	11	41	105	143	81
1892	116,424	1890	—	99	7	19	19	7	58	209	141	79
1893	117,833	1840	—	11	9	30	47	13	74	183	168	88
1894	118,715	1640	—	30	3	22	12	9	44	120	152	87
1895	119,606	1880	—	21	4	15	34	12	86	172	167	74
1896	120,499	1610	—	45	5	16	26	11	61	165	150	66
1897	121,401	1501	—	14	10	10	21	17	91	163	142	47

* Preston added to the Borough in 1874.

THE NOTIFICATION OF INFECTIOUS DISEASES.

For a knowledge of the more important Infectious Diseases we are, since March 1st, 1891, no longer dependent solely on the uncertain and late information obtainable from the death-returns and from casual sources.

The more accurate and prompt returns furnished to me under the Infectious Diseases (Notification) Act show that the total number of *cases* of Infectious Diseases notified during 1897 was 700 :—Diphtheria, 185 ; Scarlet Fever, 325 ; Enteric Fever, 113 ; Erysipelas, 61 ; Puerperal Fever, 15 ; Membranous Croup, 1 ; Small-pox, 0.

The above is the number of supposed *cases* of infectious disease. Further observation in a certain proportion of these led to a revision of the diagnosis.

Seven cases of Diphtheria, 8 of Enteric Fever, 2 of Erysipelas, 4 of Scarlet Fever, and one of Puerperal Fever, were notified severally by two doctors, chiefly in connection with their removal to hospitals, and one case of Erysipelas was notified by three doctors.

The total number of notifications (including 13 by myself) was 700, as compared with 686 in 1896. Of these, 178 occurred in public medical practice—the amount payable for the certificates being £8 18s.; while 509 occurred in private medical practice—the amount payable being £63 12s. 6d. The total amount paid for notification certificates was £72 10s. 6d.

The cost of administering the Infectious Diseases (Notification) Act in each complete year since its adoption in Brighton is as follows:—

YEAR.	COST OF NOTIFICATION FEES PAID TO MEDICAL PRACTITIONERS PER 1,000 OF POPULATION. s.	d.
1892 ...	11	3
1893 ...	17	3
1894 ...	10	0
1895 ...	10	1
1896 ...	11	9
1897 ...	12	0

TABLE VII.

		Number of infectious cases per 100,000 of population.	Number of deaths per 100,000 of population.	Case-mortality Number of deaths per 100 cases notified.
Diphtheria and Croup ...	1892	94	19	20·2
	1893	157	30	18·4
	1894	104	22	21·1
	1895	171	15	8·8
	1896	141	16	10·9
	1897	154	10	6.5
Scarlet Fever	1892	321	7	2·1
	1893	406	9	2·2
	1894	185	3	1·6
	1895	163	4	2·5
	1896	206	5	2·3
	1897	269	10	3.7
Enteric and Continued Fever	1892	54	7	12·7
	1893	65	13	19·5
	1894	69	9	13·0
	1895	72	12	16·6
	1896	101	11	11·2
	1897	94	17	18.1
Erysipelas	1892	81	6	7·4
	1893	145	12	8·3
	1894	82	5	6·0
	1895	57	3	5·3
	1896	61	4	6·9
	1897	51	6	11·7
Puerperal Fever... ...	1892	4	5	125*
	1893	10	5	50
	1894	4	—	—
	1895	6	3	50
	1869	9	4	46
	1897	13	4	33

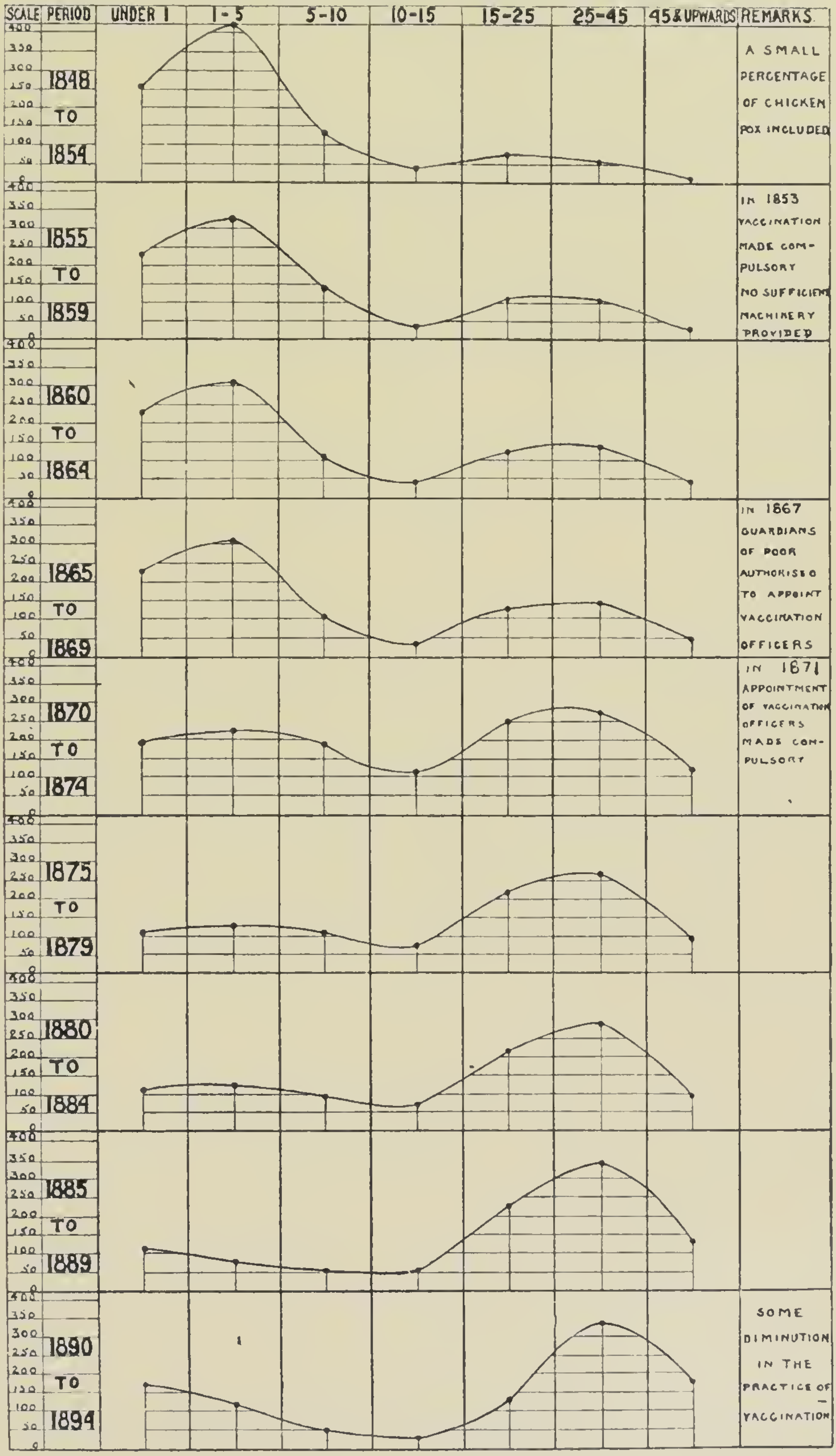
*Notification of cases evidently incomplete.

SMALL-POX.

No deaths from or cases of Small-pox occurred during the year. The continuance of this immunity depends largely on the early recognition of the the first cases that may be imported, and on the prompt action following on this. Once Small-pox obtains a footing, whether it becomes serious or not, depends chiefly on the condition of the population as regards vaccination. The official administration of vaccination in Brighton is happily accompanied by much less friction than in most towns, and the percentage of successful vaccinations is much above the average. It is probable that important legislative changes will take place next year, embodying some of the recommendations of the Royal Commission on Vaccination. Among these will probably be the provision of calf-lymph wherever desired, the substitution of domiciliary vaccination for vaccination stations, and the extension of the age for compulsory vaccination. The report of the Royal Commission summed up very strongly in favour of re-vaccination, though no recommendations were made on this subject, except in a minority memorandum. But it is generally recognised that the effect of infantile vaccination, although for the rest of life it ensures a modified attack of Small-pox, gradually wears off, and that complete security against Small-pox can only be secured by vaccination. The following diagram brings out this point very strikingly. It will be seen that, with increased vaccination, Small-pox as a fatal disease has gradually ceased to be an infantile disease and become more and more an adult disease. During the last few years, with some increasing neglect of vaccination, the curve shews a tendency for Small-pox to return to its natural infantile incidence. It must be noted that the diagram simply deals with the age-distribution of such deaths as have occurred, not with the actual numbers. There has, in fact, been not only an alteration of the age incidence of the deaths, but also an enormous decline in the total number at all ages.

ENGLAND AND WALES

DEATHS FROM SMALL POX AT CERTAIN AGE PERIODS TO 1,000 DEATHS FROM SMALL POX AT ALL AGES.



ENTERIC OR TYPHOID FEVER

During 1897 113 cases were notified as Enteric Fever. Of these 7 subsequently proved to be suffering from other diseases than Enteric Fever, in 3 the nature of the disease was doubtful. 15 patients arrived in Brighton while incubating the disease or during the attack, and 88 acquired the disease in Brighton. Of the 15 imported cases, 4 originated in London, 2 in Maidstone, 2 in Rottingdean, and 1 each in Hove, Shoreham, Hassocks, Burgess Hill and Southsea. The 88 patients acquiring the disease in Brighton remain to be accounted for. The circumstances of each of these cases have, so far as was practicable, been carefully investigated. In a certain proportion of cases this was impossible, owing to the death of patients or their removal from Brighton.

The following table shows the history of cases of Enteric Fever in relation to the eating of shell-fish during the three weeks preceding the onset of the disease since Midsummer, 1893 :—

County Borough of Brighton.

Year.	No. of cases subsequently found not to be Enteric Fever, or of which the nature was doubtful.	No. of cases of Enteric Fever, the infection of which was imported from other districts.	No. of cases apparently originating in the town in which :				Infection probably acquired in connection with the storing of shell fish.	Total cases of local origin.
			(a) it was stated that no oysters or other shell fish had been eaten.	(b) it was doubtful as to whether shell fish had been eaten.	(c) origin was directly ascribable to oysters.	(d) origin was directly ascribable to other shell fish.		
1893 (from Midsummer) ...	1	16	19	6	6*	—	—	31
1894	15	15	33	1	16	5	—	55
1895	12	19	37	—	7†	12	—	56
1896	7+3	18	61	2	22‡	8	1	94
1897	7+3	15	47	11	11†	16	3	88

* No secondary cases. † Including one secondary case.
‡ Including two secondary cases.

It will be observed that of the 88 cases originating in Brighton during 1897, it was stated in 47 cases that no shell fish had been eaten within the time above specified ; in 11 other cases this point was doubtful, the patient's own statement on the question not being obtainable ; in 11 cases oysters, and in 16 cases mussels, from a source grossly contaminated by sewage had been eaten within three weeks of the date of onset of the disease ; while in three other cases the infection appeared to have been acquired in connection with the storing and selling of oysters derived from a sewage-contaminated source. These three cases are of interest, as they support a similar case narrated in my last Annual Report. In the first of these a child aged four years, whose father keeps an oyster shop and lives on the same premises, began with Enteric Fever on June 6th. The mother of this child had Enteric Fever in the same house in 1892. The sanitary arrangements of the house are good. The mother frequently had oysters, the child is stated to have had none. The oysters are stored close to where the child played, they frequently are not free from mud when received; and this mud is derived from an estuary, within a few hundred feet below where the sewage of a considerable population is discharged.

The second case is somewhat similar. A boy aged six years began with Enteric Fever on September 2nd. The drain of the house was found to be leaky. There were nine other persons living in the same house, who have remained well. During the summer the mother sells oysters on the Beach, and the above patient during the school holidays (in August) was daily playing about on the Beach. He is stated not to have eaten any oysters.

The following are given as illustrative of the cases of Enteric Fever, traceable to the consumption of specifically contaminated shell-fish :—

Mussel Cases.

1.—On January 17th, Mr. W. brought home a quantity of mussels which he had gathered in ——— Harbour. Mrs. C. ate a quantity of these mussels raw, Mr. C. ate one raw, Mr. and Mrs. W. and Mrs. C.'s children ate the remainder after they were cooked. All remained well except Mrs. C , who began with Enteric Fever on January 27th. The sanitary arrangements of this house were perfect.

2.—A boy aged 11 and his father bought a quantity of mussels in ——— Lane, on July 14th. Each of them ate four of the mussels raw while they were cleaning them at the sink. The father has remained well, the boy started with Enteric Fever on July 22nd. Seven other children and two adults live in this house, the sanitary arrangements of which are excellent, and they have remained well. The mussels were derived from ——— Harbour.

3.—A man aged 53 years, sent his daughter on September 15th, to ——— Lane, for a quart of mussels. These he ate raw. No one else partook of them. There were living in this house 7 adults and 8 children (three families). The sanitary arrangements are good. All have remained in good health except the above man, who started with Enteric Fever on September 28th. The mussels were derived from ——— Harbour.

4.—On September 25th, Mrs. W. and her married daughter (Mrs. H.) bought two quarts of mussels in ——— Street. These mussels came from ——— Harbour. After well washing them, Mrs. H. ate two or three raw. Mr. H. ate a large number raw. Mr. W. also ate some raw. Mrs. W. ate none raw. The mussels were then placed on the fire for a quarter of an hour in a saucepan containing a small quantity of water, and then they were eaten by the above four, with the following sequence of events :—Mrs. H. began with Enteric Fever on October 11th. She was six months pregnant at the time and miscarried as the result of the fever, dying suddenly a few days later from pulmonary embolism. Mr. H. has remained well. Mrs. W. had diarrhoea and very bad headache for several days, starting about fourteen days after eating the mussels. Mr. W. had diarrhœa at the same time lasting several days, but did not keep away from work. The drain of this house does not pass under the house. It was leaky.

5.—A boy, aged 12 years, was sent on December 11th by Mrs. S., a lodger in the same house, for half a gallon of mussels from ——— Lane. These were all eaten raw by Mrs. S., the boy, his brother, aged 15 years, his married sister (Mrs. H.), and by a Mr. M., with the following sequence of events. Mrs. S. has left Brighton, and nothing can be ascertained about her. Mr. M. and the boy's mother have remained well. On or about December 18th the boy began with Enteric Fever. On December 25th Mrs. H. had a violent attack of diarrhœa, lasting four days. She had only mutton for dinner on that day, and no Christmas pudding. The brother (aged 15 years) had diarrhœa on December 29th, which lasted two days. He felt so ill that he asked to be allowed not to go to work. On January 8th I examined Mrs. H.'s blood and found that it gave a typical Widal's reaction, indicating that the patient had suffered from an attack of Enteric Fever. She had not had this disease previously, and there appears to be little doubt that the illness above mentioned was an abortive attack of Enteric Fever.

Oyster Cases.

1.—A man, aged 21, a labourer, on May 29th, went to an oyster bar in ——— Street and bought a dozen oysters. He ate the oysters at the bar. One of them being "bad," the proprietress gave him another in its place. He had, however, eaten a portion of the "bad" oyster. The oysters came from ——— Harbour. The man lives with his father and mother, and a brother and sister, aged 10 and 15 respectively, who have remained well. The sanitary arrangements of the house are good.

2.—Mrs. W. came to Brighton from London on October 29th. About November 16th she and her husband ordered half a lobster and six oysters at ———. The lobster was eaten by Mr. W., the oysters by Mrs. W. Mrs. W. noticed that the oysters were "not nice" and Mr. W. made the shopman change two of them. Mrs. W. had oysters on several previous occasions at this shop. The oysters in this shop are stated to come from Billingsgate. Mrs. W. began with Enteric Fever about eight or nine days after eating the above oysters. The exact date cannot be ascertained, the attack (and the patient's memory as to dates) being complicated by a relapse.

3.—Mr. X. began to be ill about October 22nd, with symptoms resembling Influenza, which eventually proved to be Enteric Fever. Just before this time he was in poor health, and was in the habit of frequently calling at ——— oyster shop, at least once a week, and eating oysters, which came from ——— Harbour. A cesspool was found in the back yard of this house. The wife, two boys, two assistants and a servant living in the same house have remained well.

The 47 cases of local origin, in which it was stated that no shell-fish had been eaten, remained to be accounted for. Of these, nine occurred in one family, in a deplorable state of poverty and dirt. The first case in this family was a boy, who was stated to be in "the habit of bringing stinking fish home," and no doctor being called in, the others rapidly failed. Five other cases were derived by infection from previous cases in the same house. Of the remaining 33 cases, in 18 no history of infection could be ascertained, while in 15 others the only fact ascertainable was that the house-drains were defective. In the shell-fish cases, 10 were associated with defective house-drains, and in 16 these were perfect.

The following circular is inserted at this point, as it gives a concise summary of the action taken by the Brighton Sanitary Authority to bring about legislation to secure the inhabitants of the town against the dangers connected with the consumption of specifically contaminated shell-fish. There is some ground for hoping that as the result, in part at least, of the petition now being promoted by Brighton and to which the Sanitary Authorities of 29 great towns have affixed their signature, some legislative action may be taken by the Government.

MEMORANDUM AS TO THE CONNECTION BETWEEN THE CONSUMPTION OF SHELL FISH CONTAMINATED BY SEWAGE AND INFECTIOUS DISEASE.

By ARTHUR NEWSHOLME, M.D., *Medical Officer of Health of Brighton. Examiner in State Medicine to the University of London.*

The causes of Enteric Fever have probably been more thoroughly investigated than those of any other single disease. It is generally recognised that the contagium of this disease is derived from the excreta of patients suffering from it, either by direct infection in connection with the nursing of patients or by indirect infection in a more remote manner. The chief indirect means by which infection may be received are as follows:—

1.—Emanations from defective drainage arrangements or from a subsoil which is chronically contaminated by the Typhoid organism, this organism being able to live and multiply in a sewage contaminated subsoil.

2.—Contamination of water or milk by dejecta derived from Enteric Fever patients.

3.—Contamination of shell fish or other foods by dejecta derived from Enteric Fever-patients.

It has been a source of disappointment to the Authorities of many great towns that the provision of unpolluted drinking water, and the construction of main sewerage works and of water-tight house drains, which free the subsoil from contamination, have not been followed by so great a reduction in the mortality from Enteric Fever as might have been expected.

The Brighton Sanitary Authority have shared in this disappointment. They have entirely eliminated cases of Enteric Fever caused by contaminated water; they have had in recent years no cases traceable to contaminated milk; the majority of the house drains in the town are completely water-tight, and the subsoil is thus kept free from the contamination which favours the continued vitality of the Typhoid organism within it. Notwithstanding these facts, they find that although the amount of Enteric Fever is low in Brighton they still suffer from more of this disease than they had reasonable grounds to expect, having regard to their large expenditure on the sanitary improvement of the town.

A considerable proportion of the cases are imported, but when these are eliminated they find that a large share (at the least 30 per cent.) of the cases originating in the Municipal Borough of Brighton are caused by conditions other than those mentioned under the first two headings above.

It is well known by every Medical Officer of Health that in a considerable proportion of cases of Enteric Fever the source of infection remains undetected, after elimination of water or milk or defective sanitary arrangements as possible causes of infection. This remark applies particularly to the sporadic cases which, in towns under an efficient sanitary régime, form the majority of the total cases. Such cases constitute the main difficulty in completely eradicating Enteric Fever. It is through contamination of water or milk on a large scale from such sporadic cases that our great epidemics of Enteric Fever arise.

It is furthermore now becoming more generally recognised that Enteric Fever is much more frequently acquired from ingesta (food and drink) than by inhalation of the poison. But the cases in which difficulty in tracking the source of infection occurs being isolated items, without any connecting link with others in the same neighbourhood, it is easily understood why there has been considerable diffidence in arriving at the conclusion that such cases are caused by specifically contaminated shell fish. This cause of Enteric Fever has now however, become generally recognised.

It was recognised early in 1894 by the Medical Officer of Health of Brighton, and as will be seen by the summary of local action hereinafter given, the subject has almost constantly been before the Brighton Sanitary Authority since that time. The representations made by that Authority were one of the reasons leading to the appointment of a medical inspector of the Local Government Board to make a detailed inquiry into "Oyster Culture in Relation to Disease;" and Dr. Bulstrode's report, issued in October, 1896, amply confirms the isolated observations previously made. Enteric Fever is not the only disease which has been traced to specifically contaminated shell-fish, for, as Sir R. Thorne Thorne remarks, "In the Report 'on Cholera in England in 1893,' which I had the honour of submitting to the Board in December, 1894, I expressed my conviction that the distribution of shell-fish from Cleethorpes and Grimsby as a centre, had been concerned in the diffusion of scattered cases of Cholera over a somewhat wide area of England." Medical Officers of Health in various parts of England have also reported on cases of Enteric Fever traceable to the consumption of sewage-contaminated shell-fish. As long ago as 1880, Sir Charles Cameron shewed the "possible relation of Typhoid Fever to the consumption of specifically polluted oysters" in Dublin.

The contribution of Sir William Broadbent, F.R.S., to the "British Medical Journal," 1895, Vol. I., p. 61, of Sir Peter Eade to the same Journal, 1895, Vol. I, p. 121, and numerous similar contributions shew that, as attention is being increasingly drawn to this cause of Enteric Fever, it is becoming recognised as a not infrequent cause of sporadic cases of this disease.

The following letter from Sir William Broadbent, physician to the Prince of Wales, is an important contribution on the subject :—

[COPY.]

" 84 Brook Street,
" Grosvenor Square,
" London, W.,
" January 21st, 1898.

" DEAR DR. NEWSHOLME,—I have read with much interest and entire approval the petition to the Local Government Board on the regulation of the supply of oysters and other shell fish for food purposes. Some years ago I published a series of cases demonstrating the causation of Typhoid Fever by oysters, and every year since I have seen cases in which Typhoid Fever has been distinctly traced to oysters ; at times the form of fever has been very deadly. The investigations made by Dr. Bulstrode and others have not only furnished scientific confirmation of the clinical conclusions, but have shown that the source of contaminated oysters, &c., can be identified, and that a remedy can be applied. It seems to me, therefore, an imperative duty that some such measures as those indicated in the petition should be adopted, and I certainly support the petition. I am not sure that I can attend with the deputation, but if you will give me notice of the time and place I will make an effort to be present.

" Yours very truly,
(Signed) " W. H. BROADBENT."

Medical attention has of late been specially directed to the question of the relation between the consumption of shell fish contaminated by sewage and infectious disease.

The report of the Medical Officer of the Local Government Board on this subject and the valuable evidence collected by Dr. Bulstrode and contained in the appendix to that report have drawn public attention to the very serious danger to public health which arises from the condition of certain of the oyster ponds and receptacles used for the storage of oysters in preparation for the market. The facts recorded in these reports as to the cases of the oyster ponds at Southend, Cleethorpes, Medina River, Penryn River, Brightlingsea Creek, Southwick, and Colne River, and in the cases of certain storage pits and other receptacles at Southend Pier, Blackwater River, Wivenhoe, Grimsby Fish Dock, Poole, Warsash, Bosham and Emsworth, shew that in all these instances the oyster ponds or receptacles are subject to sewage contamination of the grossest and most dangerous description.

The case with respect to sewage contaminated oyster beds and storage ponds is summarized by Dr. Bulstrode in these words (See p. 82) :—

" It must have been apparent from these descriptions and maps that at certain places along our coasts no care whatever has been exercised in the selection of localities for layings serving as fattening beds and for storage ponds, in order to ensure that oysters in these places should be reasonably free from risk of sewage pollution ; and also it will be clear

> that considerations of accessibility and convenience have, in many instances at least, determined the selection of storage ponds, fattening beds and layings. A general view of the conditions will have served to demonstrate that many of the larger and more important oyster companies possess 'layings,' fattening beds and storage ponds in the main free from the risks of dangerous sewage pollution; and that, moreover, where security in this sense does not obtain, it may—in not a few instances at least—be easily brought about by the simple expedient of altering the position of the fattening beds or storage pits. But, on the other hand, it will have been obvious to the reader that there are cases where the risk of sewage pollution to oysters is so great and so undeniable, that nothing short of complete diversion of the sewers or drains, or withdrawal of existing fattening beds or ponds from use, can be regarded as satisfactory in the public interest. It would indeed appear that, in several places along our coasts, the conditions are at least equally bad, if not worse than those which are reported to have brought about the very remarkable outbreak of Enteric Fever at Wesleyan College, Connecticut, U.S.A. (See Appendix No. 3)."

The circumstances attending the trade in oysters and other shell-fish in Brighton are such as to render the accurate tracing of the connection between the consumption of specifically contaminated shell-fish and attacks of Enteric Fever easier than those usually existing in great towns.

The following is the chain of evidence which has enabled the Medical Officer of Health to establish the connection between cases of Enteric Fever and the consumption of oysters and other shell-fish :—

a.—Most of the oysters and mussels consumed in Brighton are derived from a particular source, concerning which it is only necessary to quote Dr. Bulstrode's remark (Report p. 73). "Sufficient has come to light for the purpose of demonstrating that the Southwick oyster ponds are in a most improper and unsafe position."

b.—Enteric Fever is endemic in the population whose drains and cesspools discharge near the oyster ponds and mussel beds in question.

c.—Sewage-derived organisms were found in the mud of the oyster ponds, and in the interior of oysters obtained from them by Dr. Klein, F.R S., and by Professor Boyce, of University College, Liverpool.

d.—In a large proportion of the cases the one person taking oysters or mussels from the above source within three weeks preceding the date of onset of illness is the one person subsequently taken ill with Enteric Fever.

e.—When other persons in the same house had eaten shell-fish they had diarrhœa or other evidence of illness, although this did not develope into typical Enteric Fever.

The following tabular statement shows that 30·7 per cent. of the total cases of Enteric Fever originating in Brighton during 1897, were definitely traceable to the eating of sewage-contaminated oysters or mussels, as compared with 31·8 per cent. in 1896, with 33·9 per cent. in 1895, and with 38·2 per cent. in 1894 :—

YEAR.	Total cases of local origin.	No. of cases in which it was stated that oysters or other shell fish had not been eaten.	No. of cases in which it was doubtful whether shell fish had been eaten.	No. of cases in which origin was directly traceable to oysters.	No. of cases in which origin was directly traceable to other shell fish.	Total of foregoing cases traceable to oysters and other shell fish.	Percentage of last-mentioned cases to total local typhoid cases.
1893 (from Midsummer)	31	19	6	6*	—	6	—
1894...	55	33	1	16	5	21	38·2
1895...	56	37	—	7†	12	19	33·9
1896...	94	61	2	22‡	8	30	31·8
1897...	88	47	11	11	16	27	30·7

* No secondary cases. † Including one secondary case.

‡ Including two secondary cases.

Average percentage of cases of local origin in the four years, 1894-97, traceable to shell fish = 33·1 per cent.

Summary of Local Proceedings.

The spread of Enteric Fever by means of sewage-contaminated shell fish has been a cause of anxiety to the Brighton Sanitary Authority since the 29th March, 1894, when the Sanitary Committee had before them the particulars of eight cases of Enteric Fever which had occurred during the preceding quarter, and which were attributable to the consumption of oysters derived from oyster layings grossly contaminated by sewage. These particular beds will be described as X in the present memorandum. For particulars as to these beds see Dr. Bulstrode's Report, p. 73, and the remarks quoted on page 5.

On April 19th, 1894, the Sanitary Committee had before them particulars of further cases of Enteric Fever arising from the same cause. At the same time samples of mud from the market ponds in question were submitted to bacteriological examination by Dr. Boyce, now Professor of Pathology, University College, Liverpool, who stated that the results pointed "unmistakeably to the presence in the immediate vicinity of the oyster beds of sewage matter contaminated with human excreta."

On April 20th, 1894, the Medical Officer of Health interviewed Mr. Power, the Assistant Medical Officer of the Local Government Board (in the absence of Dr. Thorne), and urged the importance of the Local Government Board bringing pressure to bear upon the responsible Local Authorities to execute an efficient combined system of main sewerage. Such a scheme is still in the future, though an Inspector of the Local Government Board has (December, 1897) held an inquiry into a proposed combined scheme affecting two out of four of the Local Authorities responsible for the pollution of the oyster and mussel layings at X.

The Brighton Sanitary Authority, during 1894, wrote to the Port Sanitary Authority of Shoreham, and as the result of their letter the owners of the market ponds at X were served with a notice from the Port Sanitary Authority requiring them to close the oyster ponds. On August 18th, 1894, the Medical Officer of Health reported that these ponds were again in use, and reported three additional cases of Enteric Fever traceable to oysters derived from them.

On October 11th, 1894, the Medical Officer of Health found that the two small sewers adjoining the market ponds had been lengthened, so as to discharge 50 and 78 feet, respectively, from the nearest ponds.

On December 7th, 1894, a deputation from the Brighton Town Council, consisting of the Mayor (Mr. Alderman Botting, J.P.), the Chairman of the Sanitary Committee (the late Councillor Loader), Sir Joseph Ewart, J.P., Councillor McClean, Town Clerk and the Medical Officer of Health, waited upon the Parliamentary Secretary of the Local Government Board (Sir Walter Foster), who was accompanied by Sir Hugh Owen and Dr. Thorne Thorne. At this interview Sir W. Foster stated that "he regarded the site where the oyster ponds were now placed as an open sewer, and absolutely unfit for its present use." He added that "there was no doubt that the question was one of general importance, and that some general regulations for the control of the trade in shell-fish were necessary."

The Medical Officer of Health of Brighton continued to report, during the next two years, cases of Enteric Fever caused by sewage contaminated shell-fish as they arose. In his annual reports he made the statement that 38·2 per cent. (1894), 33·9 per cent. (1895), 31·8 per cent. (1896), and 30·7 per cent. (1897), of the total cases of Enteric Fever originating in Brighton were caused by sewage-contaminated shell-fish. The Brighton Sanitary Authority, being impressed with the importance of obtaining powers to enable them to cope with a cause of disease which was responsible for one third of their total indigenous Enteric Fever, attempted, in the Session of 1896, to obtain Parliamentary Powers authorising them to prohibit the sale, within the Borough, of shell-fish known or suspected to be the cause of infectious disease, similar to those which the Local Government Board are now asked in the Memorial to confer upon Local Authorities generally. This clause was, however, rejected by the Police and Sanitary Committee of the House of Commons, largely it is believed, because of the statement of the Local Government Board that their investigation on the subject was not complete, and because of the statement of the Board of Trade that powers of the nature asked for, if granted, should be general and not local.

The present law does not enable Local Authorities to prevent the sale, within their district, of shell-fish from a source known to be grossly contaminated with sewage; and although cases of Enteric Fever may have been previously traced to the consumption of shell-fish from the same source, the powers with respect to the seizure of unwholesome food (Public Health Act, 1875, Sec. 116) do not meet this case. It is impossible to say in a particular instance, without a bacteriological examination requiring from seven to ten days, whether a given lot of oysters exposed for sale contain typhoid bacilli. The recent failure to find typhoid bacilli in the Maidstone water, at a time when it was spreading Enteric Fever, shews that negative results cannot be trusted. The machinery of Section 116 of the Public Health Act is quite inoperative when applied to the requirements of this case.

Town Hall, Brighton,
February 4th, 1898.

SCARLET FEVER.

During 1897, 325 cases of Scarlet Fever were notified. The proportion of cases and of deaths to population for several years is given in Table VII.

The exact extent to which the Sanatorium is used for scarlet fever patients can now be gauged for several years.

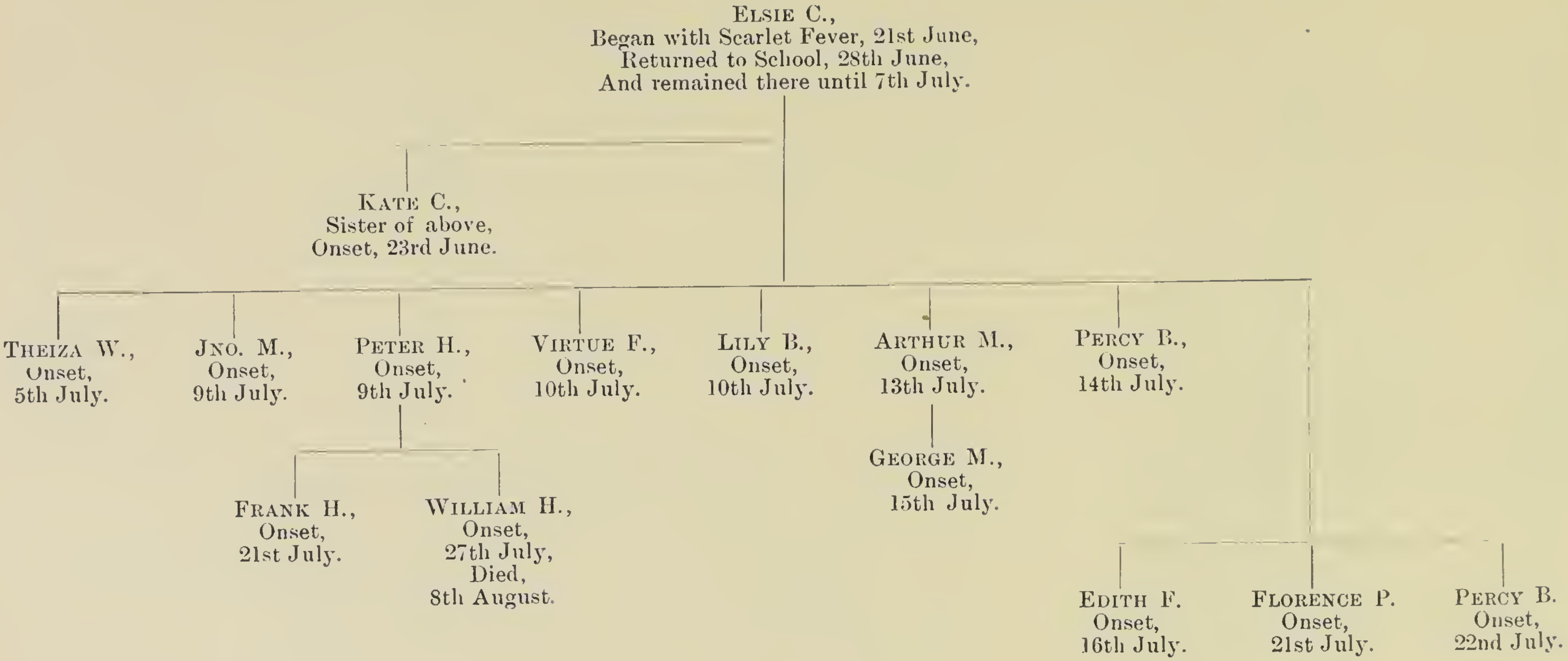
TABLE VIII.

Year.	Admissions to Sanatorium per cent. of total cases notified.	Case-Mortality, per 100 cases.	
		Among Patients treated at Home.	Among Patients treated in the Sanatorium.
1891 (from Mar. 1st.	70·0	—	—
1892	77·7	6·0	2·5
1893	70·6	2·5	1·6
1894	82·2	2·6	1·3
1895	77·4	2·3	2·6
1896	82·6	2·3	2·0*
1897	81.6	3.3	3.7

* Including one death after the patient returned home.

This Table shews that the majority of cases of Scarlet Fever are treated at the Sanatorium, thus giving a guarantee to both visitors and residents that the chances of infection in the town are reduced to a minimum.

Early in July a small outbreak of Scarlet Fever occurred in a particular Board School. The first case was a girl who, after having been kept at home from 21st June to 28th June with an unrecognized attack of Scarlet Fever, no doctor having been called in, returned to school on the 28th and remained there until the 7th of July. Her sister began to be ill on the 23rd June, and again no doctor was called in. As shewn on the appended table, attention was soon drawn to these cases by the occurrence of several other cases of Scarlet Fever, all among children who had sat on the same form as the first patient. It was then found that the latter was desquamating from Scarlet Fever. Any legal action was rendered impracticable by the fact that it was impossible to prove wilful concealment on the part of the parents. Not only the first two, but four other subsequent cases of Scarlet Fever in this particular outbreak had no doctor, until the inspector called at their houses in the course of his routine inquiries. This illustrates one of the chief difficulties in preventing the spread of Scarlet Fever in its present mild form, the sore throat and feverishness not being considered sufficiently serious to require a doctor.


ELSIE C.,
Began with Scarlet Fever, 21st June,
Returned to School, 28th June,
And remained there until 7th July.
KATE C.,
Sister of above,
Onset, 23rd June.
THEIZA W.,
Onset,
5th July.
JNO. M.,
Onset,
9th July.
PETER H.,
Onset,
9th July.
VIRTUE F.,
Onset,
10th July.
LILY B.,
Onset,
10th July.
ARTHUR M.,
Onset,
13th July.
PERCY B.,
Onset,
14th July.
FRANK H.,
Onset,
21st July.
WILLIAM H.,
Onset,
27th July,
Died,
8th August.
GEORGE M.,
Onset,
15th July.
EDITH F.
Onset,
16th July.
FLORENCE P.
Onset,
21st July.
PERCY B.
Onset,
22nd July.

In another school, in January, a small outbreak occurred under very similar circumstances.

DIPHTHERIA.

During 1897, 185 cases of Diphtheria were notified. This is slightly higher than in the preceding year. The increase is apparent rather than real. The introduction of bacteriological diagnosis and greater care in diagnosis apart from this, has probably diminished the number of cases in which the disease, because of its mildness, is missed. It will be noted (Table VII.) that only 6·5 per cent of the cases notified proved fatal, as compared with 10·9 per cent. in the preceding year.

MEASLES.

Measles caused 17 deaths during 1897, of which 2 occurred in January, and 15 in December. The annual death-rate from this disease was 14 per 100,000 of the population as compared with 45 in 1896. Cases of Measles are not compulsorily notified under the Infectious Disease Notification Act, the Town Council not having added this disease to the schedule of diseases mentioned in the Act. In the absence of such compulsory notification, we are dependent for information on the voluntary co-operation of district and dispensary medical officers, relieving officers, and more particularly of the teachers in elementary schools. An arrangement has recently been made with the School Board and the Managers of Elementary Schools, which it is hoped will make the information from this source more complete and more prompt. In virtue of this arrangement the Education Department will allow in the average attendance of a given school for absentee, whose absences from school is certified by me as having been caused by infectious illness, either personal to the scholar or occurring in the same household. I have intimated to the teachers that such certificates will only date from the day on which the intimation of the case is received by me. It it thus to the advantage of the school, as well as of the town, that the information should be sent to me promptly. The following form has been printed by the School Board for this purpose :—

SCHOOL BOARD FOR BRIGHTON AND PRESTON, U.D.

FORM FOR NOTIFICATION OF INFECTIOUS DISEASES TO MEDICAL OFFICER.

Name of Scholars.	Date of last Attendance at School.	Date when reported to M.O.H.	Date when Scholar may return to School.* *(This column to be filled in by M.O.H.)*	Supposed Nature of Illness.	Inclusive dates within which Scholar was absent from School on account of notice of Sanitary Authority. *(This column to be filled in by M.O.H.)*

* This date is subject to no other case of Infectious Disease arising in the house.

Signature of Medical Officer of Health

Name of School......................

Department......................

Teacher's Signature......................

It is hoped that the information thus received will enable us to exercise a considerable check upon the spread of Measles, with the minimum amount of interference with school-work.

The work in connection with this branch of the sanitary organization of the town is rapidly becoming more extensive and more complex. This must necessarily be so, unless we are to accept the position that the spread of disease by means of school attendance is inevitable and uncontrollable. The dense aggregation of children in schools undoubtedly furnishes favourable opportunities for the spread of disease, and this can only be kept under control by the active and persistent co-operation of teachers with my department. Even with this co-operation, our efforts are occasionally rendered futile by the non-corperation of parents, who send their children to school within four or five days after the rash of Measles has disappeared, or while in the initial stage of the disease, or hide the fact that another child than the one attending school has Measles. It is seldom that ignorance can be truthfully pleaded, except as regards the preliminary catarrh of Measles, as the rash of Measles is so well known. Over 30,000 copies of the following circular have been distributed :—

" Health Department,
" Town Hall, Brighton.

" PRECAUTIONS AGAINST THE SPREAD OF INFECTION.

" **Measles** is infectious for **three weeks** from the date of commencement of the first symptoms. During this period the Child must be kept isolated in a separate room.

" **No healthy Child from a house where Measles is prevalent should be allowed to attend Day or Sunday School during the three weeks named above**; and if a second case of Measles occurs, three weeks must be allowed to elapse from the beginning of this case before any Child from the same house is allowed to attend School.

" It is highly dangerous for parents to visit among their neighbours while their Children are suffering from Measles or any other Infectious Disease ; or to allow Children suffering from such Disease to play with other Children in the street or elsewhere, or to attend School.

" By Section 126 of the Public Health Act, any person who

" '(1) While suffering from any dangerous infectious disorder, wilfully exposes himself without proper precautions against spreading the said disorder in any street, public place, shop, inn, or public conveyance, without previously notifying to the owner, conductor or driver thereof that he is so suffering ;

" '(2) Being in charge of any person so suffering, so exposes such sufferer ; or

" '(3) Gives, lends, sells, transmit or exposes, without previous disinfection any bedding, clothing, rags, or other things which have been exposed to infection from any such disorder, shall be liable to a penalty not ex-

> 'ceeding FIVE POUNDS, and a person who, while suffering from 'any such disorder, enters any public conveyance without previously 'notifying to the owner or driver that he is so suffering, shall in 'addition be ordered by the Court to pay such owner and driver the 'amount of any loss and expense they may incur in carrying into 'effect the provisions of this Act with respect to disinfection of the 'conveyance.'

"*N.B.—It should be noted by parents, that although Children frequently appear to have recovered from Measles at the end of the first week, they are infectious for two more weeks, and wilful exposure of them during this time renders parents liable to prosecution.*

"ARTHUR NEWSHOLME, M.D.,
"*Medical Officer of Health.*

A copy is left at every house in which there is known to be a case of Measles, and its contents are emphasised verbally by the Sanitary Inspector. When a considerable number of cases occur in connection with an elementary day school, one of these circulars is placed in an envelope marked "IMPORTANT," and given, by the teacher's help, to each scholar to take home. In the majority of cases, a low ethical standard, on the part of parents, as regards responsibility for the spread of disease is the cause of the epidemics which occur in connection with schools, and I heartily wish that we could secure the help of clergymen and ministers in educating the public conscience on this particular point. Until the standard of conscientious conduct is raised in this respect, our efforts to minimise the spread of the intermittent epidemics of Measles can only be partially successful. That is no reason for discontinuing or relaxing these efforts any more than would the occasional failure to prevent the occurrence of a large fire be a reason for discontinuing to spend money on fire-preventing appliances and staff. The analogy is further suggestive, because in both instances the failure to secure success is generally caused by the lack of early information.

This raises the general question as to whether the compulsory certification of Measles by medical practitioners would produce a good result commensurate with the expenditure, which would probably be as heavy as for all the other certifiable diseases together. I am of opinion that the addition of Measles to the list of diseases under the Infectious Disease Notification Act would only be so successful as to render it desirable, under two conditions; (*a*) that the dual notification, by the parent or guardian as well as by the doctor, should be enforced; and (*b*) that a modification of the Act should be secured, with at least this one alteration that only the first case of Measles occurring in a household within six weeks should be notifiable by the practitioner, but that this exception should not hold good for the householder. The first condition could at once be fulfilled. It has been allowed to lapse so far as the diseases at present notifiable are concerned. During 1897, only *one* such case was notified by householders. Its enforcement, when no doctor is in attendance, exactly the cases in which such enforcement is required, would be difficult, as it would be very difficult to *prove* that the householder knew the nature of the ailment. And yet such cases constitute a large proportion of the total cases of Measles. During 1897 at least one-third of the total cases of Measles were not attended by a doctor.

The only means that would be likely to render compulsory dual notification of Measles thoroughly efficient, would, I think, be an enactment throwing upon the householder the onus of proving that he was unaware in any given instance that his child had Measles. This does not appear to be a hardship, the rash of Measles being so easily recognizable. In the absence of such a regulation the Local Authority and the public do not receive the full benefit of the compulsory notification of Measles where this is adopted, because of the large proportion of cases in which no doctor is called in, and in which it would be almost impossible to prove to the satisfaction of a Court of Summary Jurisdiction that the parent or guardian had recognized the nature of the ailment.

The Government will probably, in the course of next year, introduce a Bill modifying the present Infectious Disease Notification Act, and the opportunity seems to be a good one for suggesting the modifications recommended above and others that might be added.

TABLE IX.

	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total in year.
MEASLES—													
Number of Cases coming to our knowledge ...	1	—	1	—	6	7	—	—	—	41	253	146	455
Number of Deaths	2	—	—	—	—	—	—	—	—	—	—	15	17
WHOOPING COUGH—													
Number of Cases coming to our knowledge ...	19	15	12	3	19	70	41	4	5	1	4	3	196
Number of Deaths	—	3	1	2	5	5	2	2	4	—	—	2	26

The preceding tabular statement shews the month in which the cases of Measles and Whooping Cough coming to our knowledge occurred. The two deaths from Measles occurring in January were of patients who began to be ill in 1896. Of the total 455 known cases of Measles, 17 died. This gives a fatality of 3·8 per cent., a proportion which inclines one to the conclusion that we become acquainted with the vast majority of the total cases, though our information is unfortunately in many instances belated. The ages of the seventeen fatal cases were as follows:—10 months, 12 months, 14 months (2 cases), 19 months (2 cases), 18 months, 22 months, 2 years (2 cases), 3 years (3 cases), 4 years (3 cases), 13 years.

The age at which compulsory school attendance begins is 5 years. In actual practice it is very common for school attendance to commence at the age of 3 years, especially in the poorer districts. The reason for this is not far to seek. Many of the mothers go out to work, and if the younger children cannot attend school, the older children must also be kept at home to nurse them. It would appear, therefore, that the policy of school managers in encouraging attendance at school as early as the 4th year, is based on expediency rather than upon any educational advantages that may accrue. From a public health view-point it is an evil practice, because it causes the spread of Measles and Whooping Cough, at an age when the fatality* from these diseases is at its maximum. This is seen at once from the following figures summarised from Dr. Thomson's report to the Local Government Board. The fatality per 1000 persons attacked by Measles is 61 at all ages in the aggregate. For infants under one it is 96, for children 1-2 it is 197, 2-3 it is 102, 3-4 it is 49, 4-5 it is 15, and 5-10 it is 11 per 1000 attacked at these respective ages.

During last year the cases of, and deaths from, Measles in Brighton were at the following ages :—

TABLE X.

Ages of Patients ...	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	Over 10	Total.
No. of Patients attacked by Measles	8	17	16	58	125	124	66	25	6	2	8	455
No. of Patients dying of Measles	1	7	2	3	3	—	—	—	—	—	1	17

The figures are on a somewhat small scale, but it will be seen that Measles is seldom fatal over 5 years of age. At ages 2-3, the number of deaths per 1000 cases attacked, assuming the approximate completeness of our knowledge of the cases at different ages, was 125, at ages 3-4 it was 51, and at ages 4-5 it was 24. The moral from these and the preceding figures from Dr. Thomson's report is that the longer an attack can be postponed, the less likely it is to prove fatal. It is probable also that, as in the case of Scarlet Fever and other infectious diseases, the longer an attack is postponed, the less likely it is to occur at all. In other words, the proclivity to most infectious diseases diminishes with advancing age.

It will be noted that 10 out of the 17 total deaths from Measles occurred under 3 years of age, before voluntary school attendance begins. In nearly all these cases, the infection had been brought home from school by older children.

The 455 known cases of Measles in 1897 were distributed as follows :— 1 case each in 325 houses, 2 cases each in 44 houses, 3 cases each in 10 houses and 4 cases each in three houses.

We now come to the very difficult question of the influence of school-attendance apart from that of other means of inter-communication. In the accompanying diagram, the date of onset of every known case of Measles since September has been plotted out, each square representing one case, and the cases being classified according to the school attended. There were no cases between January and September. In September the Brighton epidemic began at the Rugby Road School. There had been a large number of cases outside the Municipal Borough before this date. The links connecting the subsequent outbreaks in the different schools can almost be traced on the diagram. The Lewes Road (Fairlight Place) School was next attacked, then the College and the National Schools. In December a slight sprinkling of cases occurred at a considerable number of schools, and at St. Bartholomew's School a similar sprinkling was followed by a considerable outbreak, which lowered the average attendance to such an extent that the managers requested me officially to close the school. This was done on the 15th December. The case of the National School has a special interest. In the week beginning November 12th no fewer than 45 scholars failed with Measles. Had I closed the school at this stage, it would have been natural to claim the credit of the clean sheet which almost immediately followed. But I decided not to close the school. Possibly a portion of this clean sheet may be claimed for the precautionary measures which were taken in connection with the cases notified to us by the teacher. The case is a remarkable one, inasmuch as the epidemic stopped suddenly without closing the school.

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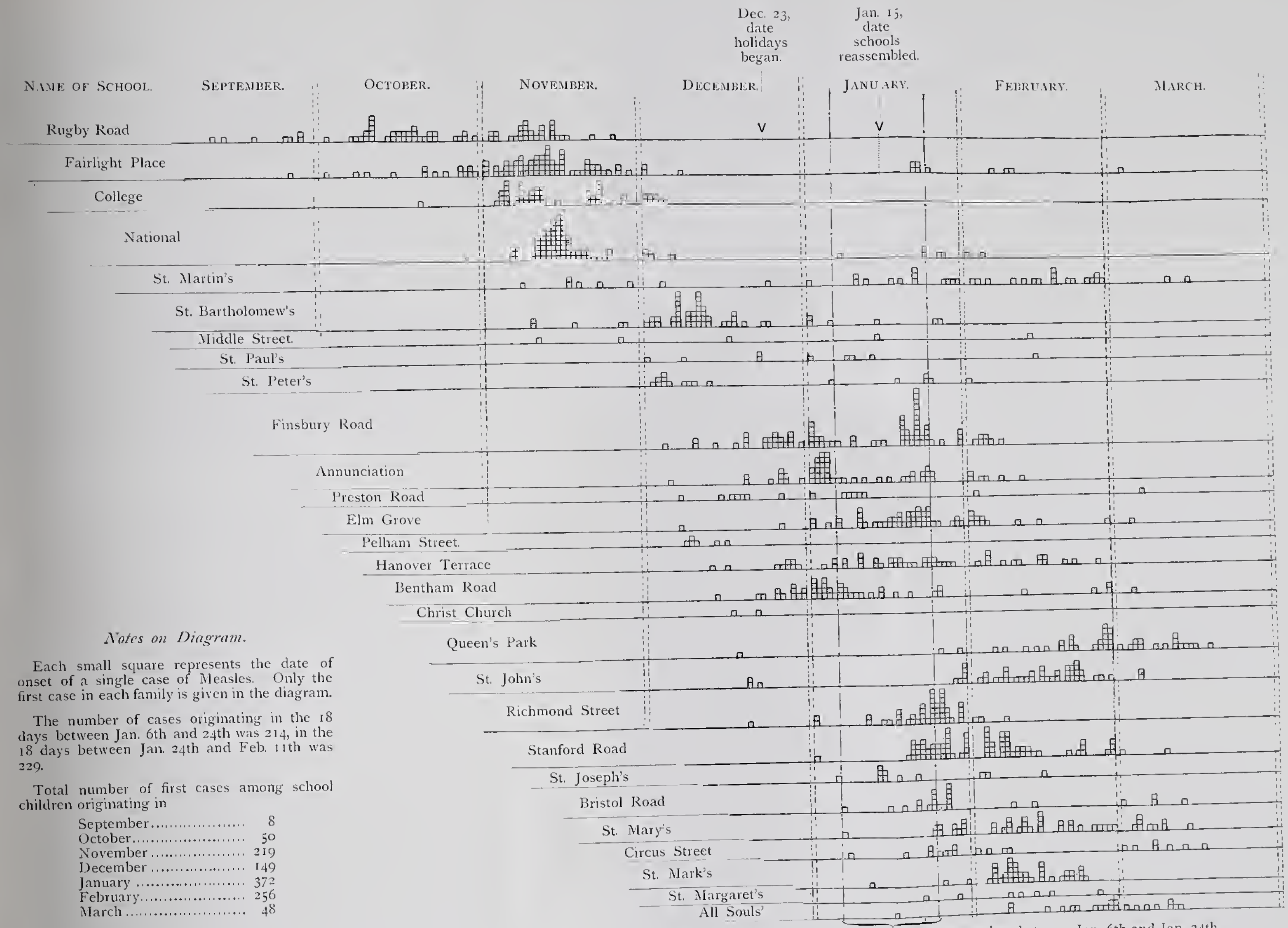
* *i.e.*—The number who die out of a given number attacked.

From the 23rd December to the 10th January inclusive, all the elementary schools in the Borough were closed, much to my relief. Allowing 14 days for the incubation period of Measles, cases originating up to the 6th January may still be ascribed to infection acquired in school, while cases originating between the 6th and the 20th January inclusive, must have been acquired otherwise than by infection at day schools. A glance at the diagram shews that in connection with the children belonging to a large number of elementary schools, the infection was spreading rapidly, although there was no day-school attendance. On the 1st of January, 2887 children dined together in the Dome, gathered from among the poorest in every district of Brighton. It will be noticed that in connection with the children who usually attend the Finsbury Road, Elm Grove and Richmond Street schools, there was between the 15th and 20th January, a great increase of cases which cannot be accounted for by school attendance. I am far from stating that the dinner at the Dome was the chief cause of this further spread of the disease. That was only one of many Christmas treats, which happening to coincide with a time when Measles was epidemic, helped to fan the flame. The general conclusion that can be reached as regards school attendance, is that closure of single schools in a town, as a rule, does but little good ; and that to secure benefit from it, it is necessary to close a group of schools in geographical relationship to each other. This was attempted by closing four schools in the Lewes Road district on December 16th instead of December 23rd.



Cases commencing between Jan. 6th and Jan. 24th, as shewn by the above two lines connected by means of a brace, originated apart from school attendance.

Notes on Diagram.

Each small square represents the date of onset of a single case of Measles. Only the first case in each family is given in the diagram.

The number of cases originating in the 18 days between Jan. 6th and 24th was 214, in the 18 days between Jan. 24th and Feb. 11th was 229.

Total number of first cases among school children originating in

September	8
October	50
November	219
December	149
January	372
February	256
March	48

Whether *post hoc* or *propter hoc*, these schools have not suffered from Measles since Christmas. In towns, the utility of closing schools for three weeks is much less than in rural districts, where there is little communication except at school. I am not, however, prepared entirely to abandon compulsory closure of schools, but think that the new system of prompt notification by teachers, and isolation of the infected families, should be given a fair trial before again practising, if necessary, complete closure of schools.

We have no legal power to prevent children from attending Sunday schools, even when they have been excluded from day schools. For some years, however, we have sent weekly lists to the superintendents of Sunday schools of those children who were known to attend Sunday school from infected houses, and have always found that the active co-operation of the Sunday Schools has been secured.

DIARRHŒA.

The number of deaths from this cause was 2 in the first quarter of the year, 11 in the second quarter, 91 in the third quarter, and 5 in the fourth quarter of the year.

The proportion at different ages was as follows :—

Quarter of the year.	Aged in Months.								Aged in Years.		
	Under one month	1-2	2-3	3-4	4-5	5-6	6-9	9-12	1-2	2-3	All older ages.
1st	—	2	—	—	—	—	—	—	—	—	—
2nd	—	2	—	1	1	1	1	1	1	2	3
3rd	—	7	9	7	10	9	12	9	22	2	4
4th	—	1	2	—	—	—	1	—	—	—	1
	—	12	11	8	11	10	14	10	23	2	8

It will be seen that of the 109 total deaths from Diarrhœa, 76 occurred in infants under one year and 99 before the end of the second year of life, most of the remainder being in old people.

The association of the mortality with hot weather is well known. It can be studied in detail in Table XI., where its association with meteorological conditions is shewn for each week of the year.

One of the chief provoking causes of diarrhœa in hot weather is the decomposition of milk in connection with the feeding of infants from bottles. Thus, of the deaths from diarrhœa under 6 months of age, 45 out of 52 were hand-fed, and in 4 information could not be obtained, while in only 3 instances were the infants entirely fed from the breast. Of the infants between 6 and 9 months old, 22 out of 24 were hand-fed. It would be a great boon if sterilized whole milk in small bottles, each sufficing for one meal, were available for purchase by mothers, and were to come into general use for infants during the summer months.

TABLE XI.

1897. Week ending	Death-rate per 1,000 per annum.	Number of Deaths during the week from										Temperature of air during week.			Temperature of soil during week at a depth of four feet.		Wind.									Rainfall.		No. of hours of bright sunshine.
																	No. of days of											
		Measles.	Scarlet Fever.	Diphtheria.	Whooping Cough.	Fever.	Diarrhœa.	Influenza.	Bronchitis.	Pneumonia, including Broncho-Pneumonia.	Phthisis.	Highest.	Lowest.	Mean.	Highest.	Lowest.	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	Calm.	No. of days on which rain fell.	Amount collected in inches.	
Jan. 9...	12·5	—	—	—	—	1	—	1	3	2	1	50·0	37·0	43·7	44·4	44·2	1	1	—	2	1	2	—	—	—	6	1·48	3·00
,, 16...	15·5	1	—	—	—	—	—	—	8	4	1	49·2	33·8	40·0	44·8	44·2	2	4	—	—	—	—	—	—	1	5	0·19	0·92
,, 23...	14·2	1	1	—	—	—	—	2	4	2	1	40·0	26·8	33·3	44·6	42·8	3	3	1	—	—	—	—	—	—	4	0·63	15·58
,, 30...	20·2	—	—	—	—	1	—	1	6	3	3	43·8	23·0	35·0	42·6	41·2	1	—	—	—	1	—	—	5	—	4	0·26	28·42
Feb. 6...	20·2	—	1	—	1	—	1	—	3	6	4	46·4	34·6	41·3	41·2	40·6	1	—	2	1	—	—	—	—	3	7	2·43	—
,, 13...	17·2	—	1	2	1	1	—	—	6	5	5	49·6	31·0	42·6	42·2	41·6	2	1	1	—	—	—	1	—	2	5	0·51	0·17
,, 20...	14·2	—	—	1	1	—	—	—	6	—	3	54·4	30·2	43·2	43·2	42·6	1	—	2	—	1	2	1	—	—	4	0·43	20·08
,, 27...	13·3	—	—	—	—	—	—	—	4	2	1	57·6	42·4	47·8	44·2	43·2	—	—	—	—	—	1	2	4	—	1	0·03	14·83
Mar. 6...	15·0	—	—	1	1	—	—	1	4	1	3	52·4	36·2	43·8	45·0	44·4	—	—	1	—	—	1	3	2	—	6	1·72	22·99
,, 13...	15·5	—	—	—	—	1	—	2	3	4	4	51·4	32·0	43·0	44·8	44·0	—	2	1	1	—	—	2	—	1	4	0·87	40·67
,, 20...	12·9	—	—	1	—	—	—	1	4	2	4	56·4	39·6	47·1	45·2	44·6	—	—	—	1	2	2	2	—	—	5	1·05	27·41
,, 27...	13·7	—	—	1	—	—	1	—	2	2	4	54·8	43·0	49·7	47·2	45·2	—	—	—	1	2	—	3	—	1	4	0·14	20·74
April 3...	14·2	—	—	2	—	—	—	2	2	—	4	52·8	35·4	45·1	47·8	47·4	1	—	1	—	1	1	—	2	1	5	1·06	28·75
,, 10...	11·2	—	1	1	1	1	—	1	1	2	1	54·0	31·8	44·5	47·8	47·2	2	2	—	1	—	2	—	—	—	3	0·33	30·00
,, 17...	18·0	—	2	—	—	1	1	2	1	1	4	56·6	32·0	48·3	48·0	47·2	—	—	—	1	2	2	2	—	—	6	0·61	28·34
,, 24...	12·5	—	—	—	1	—	2	1	3	—	1	59·8	38·6	48·7	49·0	48·0	1	2	1	1	—	—	1	1	—	2	0·42	55·16
May 1...	12·5	—	—	—	—	—	—	—	2	2	3	65·8	40·8	52·2	50·2	49·0	2	—	1	—	2	—	—	—	2	2	0·44	45·42
,, 8...	15·9	—	—	—	1	—	1	1	1	4	4	59·4	37·6	50·1	51·0	50·2	1	—	—	—	—	4	—	1	1	3	0·10	56·42
,, 15...	12·0	—	—	—	—	—	2	—	1	—	4	63·0	35·0	49·3	52·0	51·4	3	—	—	—	—	—	—	2	2	1	0·02	54·66
,, 22...	17·2	—	—	—	2	—	1	—	2	1	5	74·6	40·8	58·5	53·2	52·0	1	6	—	—	—	—	—	—	—	2	0·15	81·67
,, 29...	13·3	—	—	—	2	—	—	1	1	1	5	69·0	41·2	54·3	54·4	53·6	1	1	—	—	1	4	—	—	—	4	0·75	43·83
June 5...	12·0	—	—	—	1	1	1	—	1	4	2	74·0	49·2	60·2	55·4	54·6	1	3	—	—	1	—	—	—	2	2	0·87	36·49
,, 12...	10·7	—	—	—	2	—	—	—	1	1	2	73·0	49·0	58·0	56·4	55·4	1	1	—	3	1	1	—	—	—	4	1·16	44·17
,, 19...	11·6	—	—	—	1	1	1	—	1	1	4	74·0	46·0	60·2	58·2	56·6	—	—	—	1	—	2	3	1	—	4	0·61	69·59
,, 26...	9·9	—	—	—	1	1	1	—	2	1	4	78·2	48·4	62·4	58·2	58·0	—	1	1	—	—	2	2	—	1	1	1·32	40·17

1897. Week ending	Death-rate per 1,000 per annum.	Number of Deaths during the week from										Temperature of air during week.			Tempera-ture of soil during week at a depth of four feet.		Wind.									Rainfall.		No. of hours of bright sunshine.
																	No. of days of											
		Measles.	Scarlet Fever.	Diphtheria.	Whooping Cough.	Fever.	Diarrhœa.	Influenza.	Bronchitis.	Pneumonia, including Broncho-Pneumonia.	Phthisis.	Highest.	Lowest.	Mean.	Highest.	Lowest.	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	Calm.	No. of days on which rain fell.	Amount collected in inches.	
July 3...	12·0	—	—	—	—	1	1	—	—	—	6	78·0	53·4	64·5	60·0	58·6	1	1	—	—	1	—	1	—	3	2	0·24	45·74
,, 10 ..	12·5	—	—	—	1	1	—	—	1	—	3	72·2	48·8	60·8	60·2	60·0	—	—	1	—	—	2	2	1	1	2	0·15	61·17
,, 17...	12·0	—	—	1	—	—	—	—	2	1	3	82·2	52·6	66·4	60·8	60·0	1	4	1	—	1	—	—	—	—	1	0·03	84·43
,, 24...	14·2	—	1	—	—	—	—	2	2	1	3	73·4	53·2	63·2	61·0	61·0	—	1	—	—	—	1	1	1	3	2	0·22	45·35
,, 31...	14·6	—	1	—	1	1	3	—	2	—	1	81·2	55·6	65·2	61·8	61·0	1	1	—	—	—	2	1	1	1	1	0·07	53·26
Aug. 7...	18·0	—	—	—	—	—	13	1	—	1	5	78·8	53·0	66·8	62·0	61·8	1	1	—	2	—	2	—	—	1	2	0·06	64·50
,, 14...	27·1	—	—	—	1	—	15	—	—	1	6	71·0	52·4	63·1	62·2	62·0	—	—	—	—	2	3	2	—	—	4	0·44	49·17
,, 21...	30·9	—	2	—	1	—	23	1	—	1	6	71·0	53·0	63·1	62·2	62·0	—	—	—	—	3	2	1	1	—	6	0·87	39·58
,, 28...	19·8	—	—	—	—	—	18	—	—	1	3	68·6	52·0	62·0	62·0	61·2	—	—	—	—	1	1	2	1	2	5	1·12	47·59
Sept. 4...	21·5	—	—	—	—	2	8	—	2	—	6	68·0	44·8	60·1	61·2	61·0	1	—	—	—	1	2	3	—	—	6	1·00	43·26
,, 11...	30·7	—	—	—	2	—	4	—	—	1	2	68·4	45·4	56·8	60·8	59·8	1	1	1	—	—	1	1	—	2	2	0·64	26·92
,, 18...	16·8	—	—	—	1	—	4	—	4	1	4	68·0	48·0	58·5	59·6	59·0	2	2	—	—	—	—	—	2	1	2	0·44	41·16
,, 25...	13·7	—	1	—	1	1	2	—	1	—	1	67·4	41·4	57·6	59·0	58·0	2	—	—	—	—	1	1	2	1	5	0·17	33·42
Oct. 2...	15·5	—	—	—	—	—	1	1	1	—	5	69·0	49·0	59·8	58·8	58·0	2	—	—	1	—	—	—	1	3	4	0·87	36·75
,, 9..	12·9	—	—	—	—	1	—	—	1	3	—	63·6	38·2	51·0	58·8	57·4	3	2	1	—	1	—	—	—	—	1	0·03	45·91
,, 16...	13·3	—	—	—	—	—	—	—	2	1	6	63·8	39·0	54·2	57·2	55·8	2	—	—	—	2	1	2	—	—	1	0·05	22·16
,, 23...	14·6	—	—	—	—	2	1	1	1	—	5	65·0	48·6	56·9	56·2	55·8	1	1	2	—	2	1	—	—	—	1	0·05	33·50
,, 30...	10·7	—	1	—	—	—	2	—	1	—	1	62·6	44·0	54·0	56·0	55·0	—	3	1	3	—	—	—	—	—	1	0·16	38·92
Nov. 6...	15·5	—	—	—	—	1	—	—	1	1	3	60·0	39·8	48·0	55·0	54·0	2	1	4	—	—	—	—	—	—	—	—	31·92
,, 13...	14·2	—	—	—	—	—	1	—	6	—	5	60·0	36·8	49·9	53·6	52·8	2	—	1	—	2	—	—	—	2	3	0·32	8·75
,, 20...	14·6	—	—	—	—	1	—	—	5	2	6	60·0	38·8	50·0	52·8	52·8	1	2	1	—	2	1	—	—	—	2	0·24	13·50
,, 27...	12·0	—	—	—	—	—	—	—	3	2	—	53·8	30·0	44·4	52·8	51·5	3	—	1	—	—	1	—	—	2	4	0·57	7·50
Dec. 4..	15·0	3	—	—	1	1	1	—	1	—	4	53·0	27·2	40·9	51·2	50·0	3	—	—	—	—	1	2	1	—	4	0·43	20·84
,, 11...	15·9	—	—	—	—	—	—	—	2	4	6	51·0	32·6	43·1	49·6	48·0	—	—	—	—	1	2	2	—	2	6	1·67	13·92
,, 18...	16·8	4	—	2	—	—	—	1	1	5	2	55·0	30·8	47·2	48·0	47·4	1	—	—	—	2	2	—	—	2	5	0·69	17·08
,, 25...	10·7	3	—	—	—	—	—	—	2	2	—	47·0	30·8	39·7	47·8	47·0	1	2	4	—	—	—	—	—	—	—	—	26·84
Jan. 1...	19·3	5	—	—	1	1	—	1	6	2	4	52·4	28·4	46·8	46·6	45·8	—	1	—	—	5	1	—	—	—	6	1·15	2·16
Entire Year...		17	12	12	26	22	109	24	119	81	173	82·2	23·0	51·8	62·2	40·6	56	50	30	19	41	53	43	29	43	172	29·	1764·78

INFLUENZA.

Influenza is an intensely infectious disease. During 1897 the number of deaths ascribed to this disease was 24, being, with the exception of 1896, the lowest since 1890, when, after many years' absence, Influenza began to bulk largely in the death-rate of England.

The number of deaths directly ascribed to Influenza in Brighton since it first appeared in our midst has been as follows.

TABLE XII.

Year.	No. of Deaths ascribed to Influenza.					No. of Deaths from Diseases of the Respiratory Organs.
	1st Quarter.	2nd Quarter.	3rd Quarter.	4th Quarter.	Total for Year.	
1889	—	—	—	—	—	291
1890	18	5	—	—	23	417
1891	37	27	7	—	71	381
1892	143	3	1	2	149	392
1893	8	8	6	11	33	343
1894	35	5	—	9	49	321
1895	82	17	1	7	107	411
1896	11	3	1	6	21	299
1897	10	6	5	3	24	245

Besides the deaths returned as due to Influenza, a considerable number returned as caused by chest ailments have Influenza for their primary cause.

DEATHS FROM TUBERCULAR DISEASES.

A special importance attaches to tubercular diseases, in view of the fact that they are due essentially to the entrance into the system of a special micro-organism, the tubercle-bacillus. The majority of those thus receiving infection are happily able to resist its development. In weaker persons, however, and particularly in those with a family predisposition to the disease, the reception of the infection is followed by the slow development of tuberculosis.

It will be seen from the following figures that some improvement in the mortality from consumption has been secured :—

Mean Annual Death-Rate in Brighton from Phthisis (Consumption) and other Tubercular Diseases per 100,000 Persons in Groups of Years.

TABLE XIII.

	Phthisis.	Other Tubercular Diseases.
Ten years, 1861-70	295	98
Ten years, 1871-80	247	78
Three years, 1881-83	193	?
Three years, 1884-86	169	?
Four years, 1887-90	169	?
Three years, 1891-93	150	81
1894	152	87
1895	167	74
1896	150	66
1897	142	47

During 1896 the deaths from Consumption numbered 174. In 138 of these it was found practicable to make inquiries into the history and environment of the deceased. There was clear evidence that in at least 23 out of the 138, or 16·6 per cent., the illness dated from some time precedent to the time of coming to live in Brighton. In not a few cases death occurred within a few weeks after the patient came to Brighton. Such sending patients to the sea-side in the last stages of disease is to be deprecated from the standpoint both of the patient and the town.

Of the 23 cases in which a definite history was obtainable, two had lived less than 1 month in Brighton at the time of their decease; seven between 1 and 3 months; six between 3 and 6 months; one between 6 and 12 months. In the remaining seven the symptoms dated from a period previous to settling in Brighton. It will be noted that this statement is necessarily incomplete. In 36 cases no inquiry was practicable, and there is reason to believe that the majority of these were temporary residents in the town.

In every house in which consumptive patients had died the sick-rooms were thoroughly cleansed and disinfected, and thus danger to the next occupants of the rooms avoided.

Notwithstanding the large number of imported cases of Phthisis, the death-rate from this disease is very low. Thus in London in the three years 1894-5-6, the death-rate from this disease was 174, 182 and 176 per 100,000 respectively, as compared with 152, 167 and 150 in Brighton.

OTHER PREVENTIBLE DISEASES.

A large number of deaths from other diseases than those previously considered are preventible, and will, with improvement in the standard of living and the avoidance of evil habits of life, steadily decline. Among these may be named a large share of the mortality from bronchitis and pneumonia, as well as of the three causes of death which will next be considered.

SYPHILIS.

During 1897, the deaths of four male and two female infants under one year of age, and one between one and five years of age, were returned as due to this cause, also of one woman. The death returns under this head are immensely understated, the prevalent immorality causing a great amount of this disease, which lurks in the system for years and is probably, next to alcoholism, the most fertile cause of ill-health and of death in our midst. Many diseases occurring under other heads, as diseases of the brain and spinal cord, and of various other organs, are really due either to alcoholism or to syphilis, although these are not mentioned in the death certificates. Syphilis (great-pox) is a contagious disease just as much as is small-pox, though it is spread almost solely as the result of immorality. One of its most painful features is the transmission of the disease to the innocent offspring, as in the above seven fatal cases among infants. It can only be diminished by the active enforcement of all preventive measures against known immorality, and by the treatment and where practicable the segregation, of men and women who have become infected. Such segregation is probably only practicable at present in the case of bodies of men, as in a regiment of soldiers.

ALCOHOLISM.

During 1897, 11 deaths were returned as caused by alcoholism or delirium tremens. Of these, 6 were men and 5 women, and only one was over 60 years of age. The deaths do not represent more than a very minute proportion of the mortality really caused by alcoholism. As a rule, the real cause is concealed behind such headings as disease of the brain or spinal cord, apoplexy, heart disease, liver disease, hœmatemesis (vomiting of blood), cirrhosis of liver, gout, Bright's disease, which, with many other diseases, are caused to a very large extent by chronic alcoholic excess.

31 deaths, 15 of men and 16 of women, were caused by cirrhosis of the liver, a disease which is almost solely produced by intemperance. Alcohol has been described by a well-known physician as the "genius of degeneration." There is no other agent so competent to hurry on the degenerative changes in the system associated with old age; in other words, *alcohol is one of the chief causes of premature old age.* It is not sufficiently recognised that these evil effects are very commonly produced by the systematic indulgence in an amount of alcoholic drinks that would by most be regarded as moderate; and that those who, while never becoming intoxicated, daily take a considerable amount of spirits (especially if taken apart from meals) are much more likely to suffer in health and prematurely break down than the labourer who may get drunk once a fortnight and be a teetotaller in the intervals.

RHEUMATIC FEVER.

During 1897, 4 deaths were caused by this important disease, as compared with 9 in 1896, 4 in 1895, 9 in 1894, and 6 in 1893. They represent but a small share of the mischief caused by this disease. The case mortality is low, but of those who survive, a large proportion go maimed by the heart disease which has supervened on the rheumatism.

DEATHS FROM VIOLENCE, &c.

During the year 52 deaths were due to some form of violence. In 124 cases inquests were held, the verdicts returned being as follows :—

1.—Natural Causes		73
2.—Suicidal—		
Poisoning	2	
Cut Throat	2	
Shooting	4	
Drowning	1	
	—	9
3.—Accidental—		
Suffocated whilst sleeping with parents	8	
Suffocated by swallowing a piece of meat	1	
Falls	11	
Burns	6	
Scalds	1	
Crushed by an engine	1	
Over-exertion—bicycle riding	1	
Drowning	3	
Inattention at Birth	3	
Administration of anæsthetics	2	
Fall into a furnace	1	
Fall from bicycle	1	
Run over by railway trucks	1	
	—	40
4.—Open Verdict—		
Found Drowned		2
Total		124

B.—SANITARY WORK OF THE YEAR.

SANITARY INSPECTIONS.

In the following tables the work of the Sanitary Department is stated, so far as it can be given in tabular form. It will be seen that 8,434 houses were visited in the course of house-to house inspection, as compared with 11,039 in the previous year. This, however, does not represent the total number of houses visited during the year. Apart from house-to-house inspection, a large proportion of the time of the inspectors is occupied in attending to complaints received from householders in every part of the town. During last year 1,196 such complaints received attention, as compared with 1,326 in the previous year. In addition, 5,268 visits were made by the special inspector for purposes of investigation and disinfection after cases of infectious disease. In each of these cases it is the practice to take the opportunity of making a sanitary examination of the houses visited. 4,362 visits were made during the year to Slaughter-Houses, 14 to Cowsheds, 396 to Bakehouses, 1,061 to Dairies and Provision Shops. The Common Lodging-houses have received 71 visits. In 185 houses the soil-pipe has been tested by the volatile tests: and 557 drains have been opened for examination. For particulars of the work see the table on the next page.

TABLE XIV.—*Inspections during* 1897.

	First Quarter.	Second Quarter.	Third Quarter.	Fourth Quarter.	Totals for 1897.
Number of Streets Inspected	87	59	70	56	272
,, Houses and other Premises Inspected	2568	2190	2189	1487	8434
Number of Complaints attended to ...	315	272	357	252	1196
,, Visits to Slaughter Houses ...	1146	1131	1091	994	4362
,, Visits to Cowsheds	5	5	2	2	14
,, ,, Bakehouses	—	198	—	198	396
,, ,, Dairies and Provision Shops	265	336	262	198	1061
Number of Day Visits to Common Lodging-Houses	12	20	17	10	59
Number of Night Visits to ditto... ...	4	—	8	—	12
,, Visits in respect of Sickness	993	802	1053	1932	4780
,, Visits to Fumigate Rooms ...	94	84	162	148	488
,, Visits for Removal of Bedding	158	118	165	135	576
,, Drains tested by Volatile Test	42	59	35	49	185
,, Drains Opened for Examination	148	132	135	142	557
Number of Smoke Observations	—	—	17	4	21
,, Visits for Sundry Purposes ...	1266	1041	1111	1104	4522
,, Visits to look up Notices Served	2843	2743	1841	1929	9356
Number of Attendances at Police Court...	1	1	1	16	19
,, Samples Collected for Analysis	27	20	8	—	55
,, Inspections of Stables... ...	228	152	113	237	730
,, Wastes of Water reported ...	198	67	39	60	364
,, Letters sent to Schools and Public Library	126	123	111	527	887
Meteorological Observations taken ...	154	156	158	158	626
Visits to Schools	329	213	147	143	832
Number of Visits to Offensive Trades ...	—	—	24	1	25
,, Visits under Factory & Workshops and Shop Hours Act	467	729	1084	980	3260
Number of Visits for Contagious Diseases Animals Committee	48	33	32	23	136
Drains flushed	5	11	13	4	33
Circulars delivered *re* Diarrhœa	—	10000	—	—	10000
Markets Committee, 1 Inspector	—	—	8 days	—	8 days

The Sanitary Inspections enumerated in Table XIV. have been followed by the serving of the notices given in Tables XV. and XVI. A very large proportion of the work is done on the strength of verbal recommendations or preliminary "warning" notices.

TABLE XV.—*Notices served on Owners during 1897.*

Nature of Notice.	Warning and Verbal Notices.			Final Notices.		Total Number of Notices on owners complied with.
	Number served.	Number complied with before service of final notice.	Number reported for final notice.	Number served.	Number complied with.	
To drain into sewer and fill up cesspools	19	2	17	19	19	21
To relay drain and fill up cesspools	19	8	11	1	1	9
To relay drain	304	202	102	101	95	297
To repair drain and soil pipe ...	232	133	99	100	98	231
To trap drain	210	127	83	94	91	218
To cleanse & whitewash rooms	217	106	111	129	126	232
To clear drain or soil pipe ...	129	43	86	89	89	132
To clear, repair or cleanse closet, or repair flushing apparatus or pan	879	470	409	408	402	872
To repave yard or scullery ...	226	117	109	124	115	232
To pave and drain stables ...	5	1	4	3	3	4
To abate other nuisances ...	1273	623	650	742	726	1349
To provide covered dust bins ...	848	407	441	456	439	846
To provide premises with a proper water supply	146	13	133	126	126	137
To cleanse premises and remove foul accumulations	8	7	1	3	3	10
To provide manure receptacles	66	10	56	60	56	66
To fill up underground manure pits	55	19	36	46	44	63
To provide W.C. accommodation	8	1	7	7	7	8
To lay on water to closet ...	59	20	39	33	53	53
To alter water pipes	7	4	3	3	3	7
To cause waste pipes to discharge into outer air	14	3	11	9	6	9
To cleanse and whitewash workrooms	2	2	—	—	—	2
Totals	4726	2318	2408	2553	2482	4798

TABLE XVI.—*Notices served on Occupiers during 1897.*

Nature of Notice.	Warning and Verbal Notices.			Final Notices.		Total number of notices on occupiers complied with.
	Number served.	Number complied with before service of final notice.	Number reported for final notice.	Number served.	Number complied with.	
To cleanse and white-wash rooms	23	20	3	10	10	30
To clear drain or soil pipe ...	17	11	6	10	10	21
To clear, repair or cleanse closet, or repair flushing apparatus or pan	251	170	81	84	84	254
To abate other nuisances ...	34	18	16	13	13	31
To discontinue keeping animals so as to be a nuisance	137	72	65	52	51	123
To abate overcrowding	104	29	75	57	54	83
To abate overcrowding in work-rooms	4	4	...	7	7	11
To abate smoke nuisance ...	9	8	1	1	1	9
Cleanse and white-wash bake-houses	64	62	2	5	5	67
Cleanse and white-wash work-rooms	66	53	13	5	5	58
To discontinue to let or occupy cellar dwellings	8	3	5	6	6	9
Cleanse premises and remove all foul accumulations	371	199	172	159	159	358
Totals	1088	649	439	409	405	1054
Total of notices served on owners	4726	2318	2408	2553	2480	4798
Total notices served	5814	2967	2847	2962	2885	5852

The increased readiness with which notices are complied with has been continued during 1897, as evidenced by Tables XVII. and XVIII.

TABLE XVII.

Date of Annual Report.	Year under Report.	Percentage of notices not complied with at time of issue of Report.
March 23rd, 1889	1888	20 per cent.
February 13th, 1890	1889	14 ,,
March 31st, 1891	1890	4·3 ,,
March 16th, 1892	1891	3·2 ,,
April 21st, 1893	1892	1·3 ,,
April 13th, 1894	1893	0·8 ,,
April 15th, 1895	1894	1·3 ,,
June 20th, 1896	1895	0·0 ,,
April 12th, 1897	1896	0·4 ,,
March 14th, 1898	1897	0·8 ,,

The number of summonses for sanitary defects, which it has been found necessary to issue in successive years, is given in the following table :—

TABLE XVIII.

Offence.	1889	1890	1891	1892	1893	1894	1895	1896	1897
Failing to abate nuisances	20	16	21	4	4	4	4	4	3
Failing to lay on water to closets	36	11	13	6	3	—	—	2	—
Failing to alter water pipes	—	—	—	1	—	—	—	—	--
Failing to cause waste pipes to discharge in open air	—	1	—	—	—	—	—	—	—
Totals	56	28	34	11	7	4	4	6	3

HOUSING OF THE WORKING CLASSES ACT.

Official representations have been made by me under Part II. of the above Act during 1896, that the following premises are in a state so dangerous to health as to be unfit for human habitation :—

TABLE XXI.

Situation of Premises.	No. of Houses.	Legal Proceedings taken.	Result.
Hayllar's Cottages	12	—	Two houses demolished, and the remainder put into thorough repair.
Queensbury Mews	1	—	House put into thorough repair.
Russell Street ...	1	—	House put into thorough repair.
Claremont Place ...	1	—	House being put into repair.
Claremont Row ...	1	—	House put into thorough repair.
Richmond Street ..	1	—	House put into thorough repair.
William Street ..	1	—	House being put into repair.
Marine View	1	—	House put into thorough repair.
Sussex Street ...	4	1	Closing order made, and all the houses afterwards put into thorough repair.
Spa Street... ..	1	1	Closing order made, house unoccupied.
Egremont Street ...	8	—	Houses acquired by Corporation for demolition.

TABLE XX.—*Meat Seized or Surrendered during the year 1897.*

Description.	No. of animals.	No. condemned by Magistrate.	No. destroyed by arrangement with owner.	Total weight in lbs.
A.—At the Abattoir—				
Bullocks (whole carcase) ...	2	—	2	912
,, (part of carcase)...	18	—	18	297
Sheep (whole carcase) ...	1	—	1	94
,, (part of carcase) ...	4	—	4	18
Pigs (whole carcase) ...	17	—	17	2675
,, (part of carcase) ...	473	—	473	3518
B.—In Private Slaughter-houses and Shops—				
Bullocks (whole carcase) ...	16	1	15	9681
,, (part of carcase)...	37	1	36	2240
Calves (part of carcase) ...	1	—	1	7
Sheep (whole carcase) ...	4	1	3	194
,, (part of carcase) ...	6	—	6	69
Pigs (whole carcase) ...	2	1	1	229
,, (part of carcase) ...	18	—	18	140
	599	4	595	20074

Other Foods Seized during 1897.

Description.	Quantity.	Quantity condemned by Magistrate.	Quantity destroyed by arrangement with owner.
Tomatoes	32 boxes	—	32 boxes
Apples	½ bushel	—	½ bushel
Herrings	9600	9000	600

The following butchers are at the present time slaughtering at the Public Abattoir :—

BUTCHERS ... ... Mr. Aylward, Lewes Road.
Mr. Bloomfield, Queen's Park Road.
Mr. Dean, Lewes Road.
Mr. Divall, Lewes Road.
Mr. George, Islingword Road.
Mr. Florence, Western Road, Hove.
Mr. Hucking, Western Road.
Mr. Hills, Southover Street.
Messrs. Jones Bros., Sutherland Road and Isilngword Road.
The London and Provincial Meat Stores, Church Road, Hove.
The Sussex Farmers' Meat Supply Association, Norfolk Square.
Mr. Sandalls, Lewes Road.
Mr. Seal, Preston Road.
Mr. Vigar, Southover Street.
Mr. Warren, Lewes Road.

PORK BUTCHERS ... Mr. Barton, Islingword Road.
Mr. Combridge, Western Road, Hove.
*Mr. Comber, Upper Lewes Road.
*Mr. Dawes, Upper Lewes Road.
*Mr. Pledge, Park Street.
Messrs. Skinner Bros., Trafalgar Street.

* These three butchers slaughter at the Abattoir for an aggregate of about 40 pork butchers.

THE PUBLIC ABATTOIR.

1897 is the third complete year of working at the Abattoir.

The following statement gives the number of animals slaughtered in the public and private slaughter-houses in connection with the Abattoir :—

TABLE XXI.

Year.	In the Public Slaughter-Houses					In the Private Slaughter-Houses					Total.
	Beasts.	Calves.	Sheep.	Lambs.	Pigs.	Beasts.	Calves.	Sheep.	Lambs.	Pigs.	
1895	89	95	694	113	4182	187	71	1231	329	—	6991
1896	333	253	1549	201	4134	58	69	990	201	3391	11188
1897	589	384	3077	224	2442	16	69	1145	158	3950	12054

The difficulties in connection with unloading cattle at the railway siding of the Abattoir continue, animals having to be driven through the streets to reach the Abattoir. It is essential that this should be remedied to ensure the full natural development of work at the Abattoir.

SALE OF FOOD AND DRUGS ACT.

Number of samples collected during the year 1897... ...	58
,, ,, adulterated during the year 1897 ...	1
,, prosecutions during the year 1897	—

Cost of samples	£0	13	3½
Cost of analysis	8	5	0
Inspector's salary	12	0	0
Cost of working the Act during the year	£20	18	3½

The samples collected were :—Milk, 32 ; butter, 4 ; lard, 2 ; and margarine, 20.

All the samples of butter and lard were genuine.

Of the samples of milk, 1 was deficient in butter fat, 25 per cent. by abstraction of the cream ; 8 of the samples of milk were not analysed owing to illness of the Public Analyst.

Of the samples of margarine, 3 were handed to the purchaser in a plain wrapper, instead of a wrapper on which the word margarine was printed in capital letters at least a ¼ in. square.

No samples were analysed during the last two quarters of the year owing to illness of the Public Analyst.

COMMON LODGING HOUSES.

A new common lodging house has been opened during the year to accommodate 124 lodgers.

There are now 4 common lodging houses in the town which accommodate altogether 177 lodgers.

FACTORY AND WORKSHOPS ACTS AND SHOP HOURS ACT.

During 1897, 3,260 visits have been made ; 1,270 of these being inspections, the remainder being for the purpose of serving Notices and affixing forms and the looking up of Notices served.

396	inspections	were of	Bakehouses.
38	,,	,,	Factories.
136	,,	,,	Workshops employing protected persons.
120	,,	,,	Adult Male Workshops.
182	,,	,,	Domestic Workshops and outworkers.
348	,,	,,	Premises coming under the Shop Hours Act.

During the year, 70 Workrooms have been measured up in accordance with Section 1 of the Factory and Workshop Act, 1895, making a total of 532 since the passing of the Act. This requires that there shall be 250 feet of cubic space for each person in a workshop during the day, and 400 feet for each person during overtime. The Act also requires that a notice shall be kept exhibited in each room, stating the number of persons who may be employed. These notices are supplied by us on cards, which can be conveniently hung.

The following defects have been found in the course of Inspector Mills' inspections during the year. Notices to remedy these defects have been well complied with, at the present time only 2 being outstanding:—

Workshops requiring cleansing or whitewashing	64
,, overcrowded	41
,, without proper ventilation	8
,, without closet accommodation	8
,, without sufficient closet accommodation	1
,, without separate closet accommodation for sexes	4
Bakehouses requiring cleansing or whitewashing	104
Closets with flushing apparatus defective	34
,, defective	30
Closet pans foul	50
Closets unventilated	11
,, without water supply	15
,, choked	2
Drinking water drawn from closet cistern	3
,, ,, cistern foul	1
Drains defective	17
Drained into cesspools	4
Drains ventilators defective	4
,, choked	9
,, untrapped	12
,, traps choked and foul	1
Soil pipes defective	4
Paving of yards or laundries defective	13
Without proper dust bin	32
Waste pipes defective	21
Animals kept in dirty condition	13
Sinks leaky	8
Yards dirty	24
Foul accumulations on premises	19
Roof and rain water pipes defective	8
Houses without proper water supply	9
Urinals foul and defective	8
*Lead workers' workshops without washing conveniences	54
	636

* Circulars left in each case.

During the year H.M. Inspector of Factories has made complaint to me in respect of sanitary defects in 13 workshops and 3 factories. These have all been attended to, and reports made in accordance with the Act to H.M. Inspector. Mr. Pearson, the new Inspector for this district, and Inspector Mills have also from time to time exchanged lists of Factories and Workshops inspected during the year, this being very useful in preventing overlapping.

No complaints have been made during the year in relation to the Shop Hours Act, and since the Amendment Act of 1895 there has been no difficulty in getting the notices exhibited.

The following circular, printed on a stiff card with an eyelet, is being distributed to the workshops in the following trades in the course of the regular inspections: Coach-painters, builders and decorators, letter-press printers, &c. The card is then hung up in the workshop. With very few exceptions this had led to the provision of washing conveniences by the employers :—

"COUNTY BOROUGH OF BRIGHTON.

"WARNING AS TO LEAD POISONING.

"All persons engaged in working in Lead are liable to suffer from poisoning, unless certain precautions are taken.

" Among those who frequently acquire fatal disease from this source are :—

" Painters (including Carriage and House Painters, Ticket and Sign Writers, &c.)
" Printers,
" Plumbers,
" House Decorators.

" The **Symptoms caused by Lead Poisoning** are as follows :—

" Extreme pallor,
" Blue line at the margin of the gums,
" Attacks of colic in the bowels,
" Wrist-drop (partial paralysis of the hands),
" Attacks of gout at intervals, followed in protracted cases by
" Bright's disease of the kidneys, which is generally fatal.

"The poisoning may be going on, although none of the above symptoms have appeared, except perhaps the first two.

"The **Essential Precaution necessary** is cleanliness. Eating with unwashen hands is almost certain in a lead worker to cause premature death. The hands must be thoroughly washed before each meal, and the nails cleansed by the use of a nail brush.

"**No Food should be eaten in the Workshop.** The dinner basket or bag should never be used for carrying dirty working aprons.

"Painting indoors is more dangerous than out of doors. Hence free ventilation by open windows and doors is necessary.

" Every workshop in which lead is used must have suitable washing conveniences for the use of the persons employed therein, including soap, towel and nail brush (Section 30, Factory and Workshops Act, 1895). A maximum penalty of £10 may be enforced for not carrying out this requirement.

"Every medical practitioner attending a patient whom he believes to be suffering from lead poisoning contracted in any factory or workshop, must notify the same to H.M. Inspector of Factories (Section 29, Factory and Workshops Act, 1895).

"ARTHUR NEWSHOLME, M.D.,
"*Medical Officer of Health.*

"Health Department,
"Town Hall, Brighton."

BOROUGH SANATORIUM.

The building operations in connection with Messrs. Peters & Son's contract for £19,975, were commenced in October, 1896. On the 10th March, 1898, the two new blocks, the porter's lodge, the discharge lodge and the disinfecting station were ready for use. The administrative building is still incomplete. The work of the institution has therefore been carried on during 1897 under great difficulties. Notwithstanding this fact, the amount of work done has been greater than in any previous year, as will be seen by reference to Table XXIII. The increase has been caused by the large number of admissions of Enteric Fever and of Diphtheria, which in former years would have been admitted to the County Hospital or to the Children's Hospital.

The following table gives a summary as to patients treated in the Borough Sanatorium during 1897 :—

TABLE XXII.—*Number of Patients during* 1897.

DISEASE.	Remaining in the Hospital on Dec. 31st, 1896.	Admitted during 1897.	Total number treated during 1897.	Number discharged during 1897.	Number who have died in the Hospital during 1897.	Remaining under treatment on Dec. 31st, 1897.
Scarlet Fever...	38	265	303	261	10	32
Enteric Fever...	4	74	78	58	14	6
Measles ...	—	2	2	1	—	1
Diphtheria ...	3	108	111	101	6	4
Small Pox ...	—	—	—	—	—	—
Other Diseases	—	2	2	—	2	—
TOTALS ...	45	451	496	431	32	43

In the following table the number of admissions for each disease for each year, since the opening of the Sanatorium, is compared :—

Table XXIII.

Disease.	1881 (four months)	1882	1883	1884	1885	1886	1887	1888	1889	1890	1891	1892	1893	1894	1895	1896	1897
Scarlet Fever ...	23	88	56	157	73	102	147	106	297	162	114	276	352	227	151	204	265
Diphtheria ...	...	1	...	2	3	3	11	10	5	5	12	43	33	54	90	59	103
Convalescent Diphtheria ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	18	5
Typhoid Fever ...	20	5	27	17	12	12	16	48	61	5	4	26	14	11	11	40	74
Measles	...	2	9	3	2	4	11	6	83	9	16	1	4	1	15	10	2
Rötheln (German Measles) ...	...	1	1	...	...	...	...	...	...	...	...	...	1	1	...	..	..
Small Pox ...	21	16	...	2	1	5	...	...	1	...	...	...	9	3	5	4	...
Erysipelas ..	...	1	...	...	...	...	...	...	...	...	...	...	2	...	1	2	...
Whooping Cough	...	...	5	...	...	...	...	...	...	...	...	...	...	...	...	1	...
Diarrhœa ...	...	...	...	...	...	...	..	...	...	...	...	...	...	...	...	1	...
Chicken Pox ...	...	...	...	...	1	...	...	1	...	...	...	...	1	1	1	...	...
Other Diseases ...	...	...	...	...	...	..	...	1	...	3	6	6	3	4	3	5	2
Quarantine ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	7	6	...
Totals ...	64	114	98	181	92	126	185	172	447	184	152	352	419	302	284	350	451

The number of nurses during the year varied from 7 to 11, and of servants from 11 to 13, including porters. The greatest number of patients at any time was 82, the smallest number 15.

Nature of Cases and Results of Treatment.—Of the total 451 patients admitted during 1896, 265 were suffering from Scarlet Fever, 103 from Diphtheria, 74 from Enteric Fever, 2 from Measles. The 2 under the heading "other diseases" were admitted, 1 as doubtful Diphtheria and the other Enteric Fever.

The results of treatment for several years are shown in the following table :—

Table XXIV.

Disease.	Mortality per 100 cases of each Disease under treatment.							
	1890	1891	1892	1893	1894	1895	1896	1897
Scarlet Fever	3·6 204	3·3 148	2·8 284	2·5 415	1·2 270	2·7 163	2·1 199	3·7 268
Enteric Fever	28·5 10	0 5	14·8 28	18·2 14	14·3 17	20·0 12	12·7 39	19·2 73
Diphtheria ...	60·0 * 5	8·8 12	14·3 44	3·3 33	17·6 56	7·6 96	7·8 71	5·6 107
Measles ...	0 9	0 16	0 1	0 4	0 1	0 15	10·0 10	0 0
Small Pox ...	—	—	—	0 9	0 3	0 5	0 4	0 0

Note.—The small figures show the total number under treatment for each disease. It is important to have regard to them, as percentages based on small numbers are relatively less trustworthy.

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* The case mortality (fatality) is calculated by dividing the deaths multiplied by 100, by half the sum of the admissions, discharges and deaths for the year.

The following table gives the number of patients for whom payment was claimed, the amount claimed in each case, and the amount already paid :—

Table XXV.

By whom Payable.	Number of Patients.	Amount Payable.	Amount already paid.
		£ s. d.	£ s. d.
Brighton Board of Guardians... ...	7	24 12 4	24 12 4
Private Patients		83 13 6	64 7 0
Disinfection, and hire of van for Patients not removed to Sanatorium		15 16 0	15 6 0
		124 1 10	104 5 11

In 1896 the amount payable for patients was £154 10s. 8d., in 1895 £243 8s. 6d., in 1894 it was £277 5s. 9¼d., in 1893 it was £303 17s. 0½d., in 1892 it was £260 18s. 7d., and in 1891 it was £181 11s. 2½d. At the end of 1891 it was decided to abolish all payments for patients in the general wards, except for parochial patients, for whom the Board of Guardians pay 7s. 6d. per week for children under 10, and 15s. for others.

The items in the following statement have been furnished by Mr. Stevens, the Borough Accountant :—

TABLE XXVI.—*Expenditure at Sanatorium.*

	1889.			1890.			1891.			1892.			1893.			1894.			1895.			1896.			1897.		
	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s-	d.	£	s.	d.
Salaries and Wages—																											
Medical Officer	150	0	0	150	0	0	150	0	0	150	0	0	150	0	0	150	0	0	150	0	0	177	6	0	150	0	0
Matron and Steward	160	17	3	134	16	4	59	19	3	64	11	6	59	19	3	59	19	3	76	17	6	79	19	0	79	19	0
Nurses, Porters and Servants ...	601	3	7	339	12	6	326	18	9	422	12	10	435	9	2	421	6	8	416	14	7	431	7	2	499	19	5
Groceries, Provisions, &c.	1322	9	11	674	6	10	616	14	11	886	5	5	1092	17	6	821	10	4	713	6	10	730	13	9	901	18	3
Medical Sundries and Disinfectants ...	138	6	4	25	4	9	14	9	5	52	11	1	52	2	4	42	10	10	36	19	4	42	0	11	75	17	8
Drapery Goods (including Uniforms) ...	238	17	3	37	15	11	43	3	6	70	2	6	48	8	4	67	15	6	59	14	7	84	19	4	102	13	7
Gas, Coal, Coke, &c.	424	14	1	242	3	3	228	15	1	300	8	9	339	14	4	323	19	5	401	8	3	254	15	7	296	19	2
Rates and Taxes (including Water Rate)	35	5	0	35	6	4	35	5	0	37	5	0	37	5	0	38	10	0	41	1	8	44	1	8	43	1	8
Fire and Boiler Insurance	16	11	6	16	11	6	18	13	2	17	11	6	17	11	6	17	11	6	17	11	6	17	11	6	17	11	6
Printing, Stationery and Advertising ...	37	13	10	27	19	11	15	3	11	15	16	3	12	9	7	15	1	1	14	5	10	11	18	9	10	14	8
Hose, Hydrants and Fitting	—			—			41	0	0	—			—			—			—			—			—		
Repairs, &c.	115	15	6	138	4	1	100	6	1	140	17	0	70	10	0	59	1	11	16	14	0	9	7	0	27	6	6
Miscellaneous...	113	3	1	44	8	8	51	0	4	85	11	2	126	2	4	127	9	3	94	14	10	77	5	7	96	18	2
Fees to Surgeons	2	2	0	2	2	0	8	8	0	6	6	0	2	2	0	—			15	2	9	10	10	0	4	4	0
Hire of Institution Nurses...	—			20	0	0	3	4	6	—			37	1	1	15	7	6	8	15	9	45	2	6	28	13	9
Gardener, Garden, Sundries and Manure	—			—			—			40	14	10	44	10	10	94	18	0	112	1	1	123	11	5	113	9	4
Total Expenditure in the Year ...	3356	19	4	1888	12	1	1713	1	11	2290	13	10	2526	3	3	2255	1	3	2175	8	6	2140	10	2	2449	6	8
No. of Patients in the Year	447			152			184			352			419			302			284			350			451		
Total No. of Weeks spent by above Patients in the Sanatorium	2439			1170			1095			2164			3031			2119			1517			1887			2498		
Total Cost per week for each Patient, including all the Working Expenses		s.	d.		s.	d.		s.	d.		s.	d.		s.	d.		s.	d.		s.	d.		s.	d.		s.	d.
		27	6		34	6		29	3		21	2		16	8		21	3		28	8		22	8		19	7

The following is a statement of the disinfecting work carried out during 1897 :—

331	Mattresses
276	Palliasses
292	Beds
1,068	Pillows and Bolsters
879	Blankets
388	Sheets and Counterpanes
15	Entire Contents of Rooms (not classified)
216	Dresses and Coats
2,024	Other Articles of Wearing Apparel
353	Carpets
1,553	Other Articles
33	Boxes, &c., of Wearing Apparel (Articles not classified), and a large number of minor articles

Number of Journeys with Ambulance to Sanatorium ...	426
,, ,, ,, ,, Hospitals ...	10
,, ,, ,, Van to Sanatorium with Infected Articles	316
,, ,, ,, Van from Sanatorium to return Disinfected Articles ...	274
	1026